0897 73

PB 205 476

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
Springfield, Va. 22151

R

101

NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D. C. 20591

SA-NONE FILE NO. 1-0003

AIRCRAFT ACCIDENT REPORT

SOUTHERN AIRWAYS, INC.
DOUGLAS DC-9-15, N92S
GULFPORT, MISSISSIPPI
FEBRUARY 17, 1971

ADOPTED: SEPTEMBER 1, 1971

E R R A T A

The following changes should be made to the subject report:

Page ii - Technical Report Standard Title Page, Item 16. Abstract, line 3, change "Runway 31" to "Runway 13".

Page 5 - Footnote 2, Correct to read:

"[2] Hysteresis Error - The error in the indication of an altimeter introduced during an increase or decrease in height, due to the imperfectly elastic properties of the aneroid material which prevents the aneroid from assuming its normal shape for any given atmospheric pressure. Air Transport Assc. 34-10-1, dated 6/1/61. Revised 12/1/61."

November 4, 1971

Report Number: NTSB-AAR-71-14

72429

BIBLIOGRAPHIC DATA SHEET	1. Report No. APTD-0897	2.	3. Recipient's Accession No.
4. Title and Subtitle Compilation of Appendix D for Kansas City Air Quality Control Region			5. Report Date December 27, 1971 6.
7. Author(s)			8. Performing Organization Rept. No.
9. Performing Organization Name and Address PEDCo-ENVIRONMENTAL Suite 8 - Atkinson Square Cincinnati, Ohio 45246			10. Project/Task/Work Unit No. Task Order No. 4 11. Contract/~~Grant~~ No. 68-02-0044
12. Sponsoring Organization Name and Address The Environmental Protection Agency Durham, North Carolina 27701			13. Type of Report & Period Covered Final 14.

15. Supplementary Notes DISCLAIMER: This report was furnished to the Environmental Protection Agency, in fulfillment of Contract No. 68-02-0044.

16. Abstracts

Five tables are developed, one for each pollutant (particulate, sulfur oxides, hydrocarbons, carbon monoxide, and nitrogen oxides). These tables were developed from both stationary and mobile emission sources. The four appendixes are: "Number of Miles and Annual Average Daily Vehicle Miles of Travel on State Highways (Including City Connecting Links), Local Federal - Aid Secondary Highways, Local City Streets, and Local Rural Roads in Kansas by County for the Year Ending December 31, 1969"; "Kansas Motor Vehicle Department Total Registration for 1968 by County"; "Vehicle-Mile Data for Missouri Portion of KCIAQCR"; and "Vehicle-Mile Data for Urban Kansas City, Missouri.

17. Key Words and Document Analysis. 17a. Descriptors

Air pollution
Particles
Sulfur oxides
Hydrocarbons
Carbon monoxide
Nitrogen oxides
Exhaust emissions
Industrial wastes
Motor Vehicles

17b. Identifiers/Open-Ended Terms

17c. COSATI Field/Group 13B

18. Availability Statement	19. Security Class (This Report)	21. No. of Pages
Unlimited	UNCLASSIFIED	102
	20. Security Class (This Page) UNCLASSIFIED	22. Price

PEDCo-ENVIRONMENTAL
SUITE 8 • ATKINSON SQUARE
CINCINNATI, OHIO 45246
513/771-4330

FINAL REPORT
COMPILATION OF APPENDIX D
FOR
KANSAS CITY AIR QUALITY
CONTROL REGION

Prepared for:

The Environmental Protection Agency
Durham, North Carolina 27701

Authorization:

Contract No. 68-02-0044
Task Order No. 4

Prepared by:
Donald J. Henz, P.E.
December 27, 1971

TABLE OF CONTENTS

		Page Number
1.0	INTRODUCTION	1
2.0	STATIONARY SOURCE EMISSIONS	2
	2.1 Kansas Data	2
	2.2 Missouri Data	3
	2.3 Correlation Between Appendix D and Primary Sources of Information . .	4
3.0	MOTOR VEHICLE EMISSIONS	15
	3.1 Motor Vehicle Emissions in Kansas Portion of AQCR	15
	3.2 Motor Vehicle Emissions in Missouri Portion of AQCR	21
4.0	CALCULATIONS OF "EMISSIONS ACHIEVED". . . .	39
5.0	APPENDIX D	41

APPENDIX 1 - Number of Miles and Annual Average Daily Vehicle Miles of Travel on State Highways (Including City Connecting Links), Local Federal - Aid Secondary Highways, Local City Streets, and Local Rural Roads in Kansas by County for the Year Ending December 31, 1969;

APPENDIX 2 - Kansas Motor Vehicle Department Total Registration for 1968 by County;

APPENDIX 3 - Vehicle-Mile Data for Missouri Portion of KCIAQCR; and

APPENDIX 4 - Vehicle-Mile Data for Urban Kansas City, Missouri

DEVELOPMENT OF APPENDIX D FOR THE
KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

1.0 INTRODUCTION

Appendix D consists of five tables - one table for each pollutant. These tables were developed from the following sources:

1. Stationary Emission Sources

   a) Statewide Inventory of Air Pollution Emissions, State of Kansas, 1970, Revised Final Report, PEDCo-Environmental Specialists, Inc. Cincinnati, Ohio. August 31, 1971 (PEDCo Inventory).[1]

   b) Final Report, Emission Inventory for the State of Missouri, International Business Machines. Gaithersburg, Maryland. August 20, 1971 (IBM Inventory).

   c) Computer printout for the Kansas Portion of the KCAQCR (Kansas printout).

   d) Computer printout for the Missouri Portion of the KCAQCR (Missouri printout).

2. Mobile Sources (Motor Vehicles)

   a) Missouri State Highway Commission

   b) Kansas State Highway Commission

The Appendix D tables are included at the end of this report.

---

1) This document is in the process of being revised.

2.0 STATIONARY SOURCE EMISSIONS

Stationary source emissions include all emissions except those emanating from motor vehicles and diesel trucks. For purposes of discussion therefore, such mobile emissions as vessels, railroads, and aircraft are included herein.

2.1 Kansas Data

The Kansas printout was used with the following changes:

1) Steam Electric Power Plants - Hand calculated emissions for Point Source No. 32 were counted twice (included in point source no. 32 totals and then added as "other" source in Wyandotte County summary). Thus emissions from power plants in Wyandotte County should be, and were, reduced by the following amounts:

Part.	SO_x	CO	HC	NO_x	
109	6151	24	12	2005	(TPY)

2) Process Emissions - Point Source Nos. 7, 41, 42, 58, 59, 60, 66, and 71 are listed as boilers in the Kansas printout. Each source has some "hand calculated" emissions which were added to the "machine calculated" emissions to give total emissions from fuel burning activity at these sources. It has been found that the "hand calculated" emissions are due to process activity

and not fuel burning. Thus the "hand calculated" emissions should be, and were, deducted from fuel burning emissions and added to process emissions as follows:

Source No.	Process	Emissions, TPY				
		Part.	SO_x	CO	HC	NO_x
7	Fiberglass Furnace	0	0	0	0	315
41	Fiberglass Furnace	140	0	0	0	0
42	Petroleum Refinery	0	0	0	35	0
58	Metallurgical	798	0	0	0	0
59	Barrel Burn.	15	2	3	31	2
60	Paper	0	0	0	161	0
66	Food	1240	0	0	0	0
71	Food	7	0	0	0	0
		2200	2	3	227	317

3) Aircraft Emissions - Emissions calculated from data obtained from the airports in each county is as follows:

County	Emissions, TPY				
	SP	SO_x	CO	HC	NO_x
Johnson County	19	188	1128	38	19
Leavenworth County	21	67	903	90	11
Wyandotte County	429	226	6787	1498	169

2.2 Missouri Data

The Missouri printout was used with the following changes:

Source No.	Corrected Emissions, TPY				
	SO_2	Partic.	CO	HC	NO_2
27	14,535	1,707	62	27	1,623
42	24,920	38	3,759	1,128	23,973
112	7	261	0	0	2
140	9	151	Negl.	3	23
142	0	6,044	0	0	0
143	0	3,020	0	0	0
144	0	2,380	0	0	0
147	0	44	0	0	0
149	0	331	0	0	0

2.3 Correlation Between Appendix D and Primary Sources of Information

Basically, Appendix D was assembled from the information contained in the Kansas and Missouri Printouts. Summaries of these printouts are contained in the PEDCo Inventory[2] (Table 5.1) and the IBM Inventory (pp. 62 and 63). In some cases there is a difference between Appendix D and the Printout summaries. These differences are due mainly to the fact that individual sources emissions were truncated, (fractional tons were dropped rather than rounded-off). However, the computer summaries do not represent a summation of the truncated figures since the machine carries all fractions to the completion of the summation. See Tables 1 thru 10 for the correlation between Appendix D and the Printout Summaries. For the Kansas portion of the AQCR, Table 5.1 of the PEDCo Inventory is also compared.

2) See footnote 1, pg. 1.

POLLUTANT SP

TABLE 1

EMISSIONS CORRELATION

KANSAS PORTION OF KCAQCR

Source	Emissions, TPY		
	Appen. D	Table 5.1	Computer Printout
Domestic Fuel	332	332	332
Comm., Indus., & Insti. Fuel			
Area	5388	5387	5370
Point	287	281	281*
Steam Electric Plants	560	672	560
Processes	21093	19040	21240*
Solid Waste Disposal			
Area	909	1836	1836
Point	927		
Aircraft	20	0	0
Railroads	1331	1331	1331
Vessels	7	7	7

*2200 tons shown in fuel burning belong in process. See Source Nos. 41, 58, 59, 66, and 71.

POLLUTANT SO_2

TABLE 2

EMISSIONS CORRELATION

KANSAS PORTION OF KCAQCR

Source	Emissions, TPY		
	Appen. D	Table 5.1	Computer Printout
Domestic Fuel	716	715	716
Comm., Indus., & Insti. Fuel			
Area	7999	7999	8000
Point	498	495	496
Steam Electric Plants	17129	23280	17129
Processes	658	658	658
Solid Waste Disposal			
Area	134	144	
Point	37	37	37
Aircraft	0	0	0
Railroads	3461	3461	3461
Vessels	48	178	48

POLLUTANT HC

TABLE 3
EMISSIONS CORRELATION
KANSAS PORTION OF KCAQCR

Source	Emissions, TPY		
	Appen. D	Table 5.1	Computer Printout
Domestic Fuel	146	146	136
Comm., Indus., & Insti. Fuel			
Area	296	297	297
Point	336	339	337*
Steam Electric Plants	626	636	637
Processes	6651	6424	6651*
Solid Waste Disposal			
Area	969	970	969
Point	1201	1201	1201
Aircraft	1815	0	0
Railroads	2663	2663	2663
Vessels	14	14	14
Gasoline Handling	7431	3041	7431
Solvent Evaporation		2759	
Misc.	0	1631	
		4390	

*227 tons shown in fuel burning belong in process. See Source Nos. 42, 59, 60.

POLLUTANT CO

TABLE 4

EMISSIONS CORRELATION

KANSAS PORTION OF KCAQCR

Source	Emissions, TPY		
	Appen. D	Table 5.1	Computer Printout
Domestic Fuel	434	433	434
Comm., Indus., & Insti. Fuel			
Area	781	782	781
Point	34	31	35
Steam Electric Plants	161	160	159
Processes	1300	1300	1300
Solid Waste Disposal			
Area	4266	4266	2855
Point			1411
Aircraft	6787	0	0
Railroads	3728	3728	3728
Vessels	18	18	18

POLLUTANT NO_x

TABLE 5

EMISSIONS CORRELATION

KANSAS PORTION OF KCAQCR

Source	Emissions, TPY		
	Appen. D	Table 5.1	Computer Printout
Domestic Fuel	937	937	937
Comm., Indus., & Insti. Fuel			
Area	1339	1389	1388
Point	1785	1787	1791*
Steam Electric Plants	8660	10663	8659
Processes	1248	931	1248*
Solid Waste Disposal			
Area	367	368	367
Point	117	117	117
Aircraft	300	0	0
Railroads	3994	3994	3994
Vessels	21	20	21

*317 Tons shown in fuel burning belong in process. See Source Nos. 7 and 59.

POLLUTANT SP

TABLE 6

EMISSIONS CORRELATION

MISSOURI PORTION OF KCAQCR

Source	Emissions, TPY	
	Appen. D	Computer Printout
Domestic Fuel	319	342
Comm., Indus., & Insti. Fuel		
Area	574	576
Point	6323	6343
Steam Electric Plants	14266	14266
Processes	72925	72928
Solid Waste Disposal		
Area	2068	2074
Point	129	129
Aircraft	572	572
Railroads	552	561
Vessels	23	24

POLLUTANT SO_2

TABLE 7

EMISSIONS CORRELATION

MISSOURI PORTION OF KCAQCR

Source	Emissions, TPY	
	Appen. D	Computer Printout
Domestic Fuel	49	68
Comm., Indus., & Insti. Fuel		
Area	1132	1196
Point	447827	447775
Steam Electric Plants	303242	303242
Processes	741	741
Solid Waste Disposal		
Area	114	133
Point	319	319
Aircraft	273	273
Railroads	1487	1458
Vessels	90	103

POLLUTANT HC

TABLE 8

EMISSIONS CORRELATION

MISSOURI PORTION OF KCAQCR

Source	Emissions, TPY	
	Appen. D	Computer Printout
Domestic Fuel	112	144
Comm., Indus., & Insti. Fuel		
Area	746	779
Point	10080	10087
Steam Electric Plants	2415	2415
Processes	23617	23617
Solid Waste Disposal		
Area	3839	3853
Point	4	4
Aircraft	2717	2717
Railroads	1118	1121
Vessels	47	48
Gasoline Handling	5567	5566
Solvent Evaporation	1091	1097

POLLUTANT CO

TABLE 9

EMISSIONS CORRELATION

MISSOURI PORTION OF KCAQCR

Source	Emissions, TPY	
	Appen. D	Computer Printout
Domestic Fuel	346	358
Comm., Indus., & Insti. Fuel		
Area	117	140
Point	354	354
Steam Electric Plants	5247	5242
Processes	7382	7382
Solid Waste Disposal		
Area	11043	10924
Point		8
Aircraft	2537	2533
Railroads	1575	1570
Vessels	53	62

POLLUTANT NO_x

TABLE 10

EMISSIONS CORRELATION

MISSOURI PORTION OF KCAQCR

Source	Emissions, TPY	
	Appen. D	Computer Printout
Domestic Fuel	1327	1337
Comm., Indus., & Insti. Fuel		
Area	3884	3957
Point	121310	121424
Steam Electric Plants	72987	72987
Processes	1375	1380
Solid Waste Disposal		
Area	764	779
Point	151	151
Aircraft	366	366
Railroads	1630	1682
Vessels	72	70

3.0 MOTOR VEHICLE EMISSIONS

Motor vehicle emissions include those emissions emanating from gasoline and diesel powered vehicles. These emissions are designated as items IV A, 1 and 2 on Appendix D.

The motor vehicle emissions for the KCAQCR shown in the Kansas and Missouri printouts were based on a single speed classification. Therefore these emissions have been recalculated based on 25 and 45 mph speed classifications.

3.1 Motor Vehicle Emissions in Kansas Portion of AQCR

Automotive emissions were calculated based on 1969 vehicle-mile data obtained from the Kansas State Highway Commission (Appendix 1). Calculations are shown in Tables 11, 12, and 13. Two adjustments had to be made to these calculations:

1) Deduct portion of vehicle miles due to diesels
2) Update 1969 data to 1970

The three Kansas counties in the KCAQCR have 8.4% of all the trucks registered, (Appendix 2). Total diesel fuel sold in Kansas (1969) was 103 million gallons, (PEDCo Inventory, p. 21). Thus 8.6 million gallons are apportioned to Johnson, Leavenworth, and Wyandotte Counties. Assuming an average mileage of 5 mpg, diesels drove 43 million

vehicle miles in 1969. This represents 2% of the total (2194 million vm). The values shown on Tables 11-13 were adjusted accordingly. Diesel emissions were calculated using 8.6 million gallons of fuel and prorated among the counties in proportion to the vehicle-miles driven in each county as follows: Johnson County, 45%; Leavenworth County, 10%; Wyandotte County, 45%. Diesel emissions were calculated using the following emission factors:

	Emissions				
Units	SP	SO_x	CO	HC	NO_x
lb/1000 gal. fuel	25	45	325	65	340
tons/10^6 V-M	2.5	4.5	32.5	6.5	34.0

Thus, diesel emissions based on 1969 data were:

County	Emissions, TPY				
	SP	SO_x	CO	HC	NO_x
Johnson	49	87	630	126	660
Leavenworth	10	20	140	28	140
Wyandotte	49	87	630	126	660
	108	194	1400	280	1460

Both automobile and diesel emissions were updated from 1969 to 1970 based on a 3.8% annual growth rate. These adjusted emissions are shown in Table 14.

TABLE 11 - AUTOMOTIVE EMISSIONS FOR JOHNSON COUNTY
1969 Data

ROAD FUNCTION	1000 VEHICLE-MILES, V-M		
	25 MPH	25/45 MPH	45 MPH
State Highway			1355
Secondary Highway		419	
Local Urban Roads	919		
Local Rural Roads	42		
	961	419	1355
		50% ← → 50%	
	+ 210		+ 210
	1171		1565
	X 365		X 365
	426,000 $V\text{-}M_{25}$		570,000 $V\text{-}M_{45}$

		Emission Factors	Emissions, TPY				
$V\text{-}M_{25}$							
426,000	X	0.000330=	141				
		0.000198=		85			
		0.104 =			44300		
		0.0172 =				7350	
		0.0099 =					4210
$V\text{-}M_{45}$							
570,000	X	0.000330=	188				
		0.000198=		112			
		0.066 =			37600		
		0.0128 =				7300	
		0.0116 =					6620
			329	197	81900	14600	10800
			SP	SO_x	CO	HC	NO_x

TABLE 12 - AUTOMOTIVE EMISSIONS FOR LEAVENWORTH COUNTY

1969 Data

ROAD FUNCTION	1000 VEHICLE-MILES, V-M		
	25 MPH	25/45 MPH	45 MPH
State Highway			423
Secondary Highway		58	
Local Urban Roads	108		
Local Rural Roads	18		
	126	58	423
	+ 29	50% ⟷ 50%	+ 29
	155		452
	X 365		X 365
	56,600		165,000
	$V\text{-}M_{25}$		$V\text{-}M_{45}$

		Emission Factors	Emissions, TPY				
$V\text{-}M_{25}$							
56,600	X	0.000330 =	19				
		0.000198 =		11			
		0.104 =			5,880		
		0.0172 =				970	
		0.0099 =					560
$V\text{-}M_{45}$							
165,000	X	0.000330 =	54				
		0.000198 =		33			
		0.066 =			10,900		
		0.0128 =				2,110	
		0.0116 =					1,910
			73	44	16,800	3,080	2,470
			SP	SO_x	CO	HC	NO_x

TABLE 13 - AUTOMOTIVE EMISSIONS FOR WYANDOTTE COUNTY
1969 Data

ROAD FUNCTION	1000 VEHICLE-MILES, V-M		
	25 MPH	25/45 MPH	45 MPH
State Highway			1424
Secondary Highway		135	
Local Urban Roads	1058		
Local Rural Roads	53		
	1111	135	1424
	+ 68	50% ⟷ 50%	+ 68
	1179		1492
	X 365		X 365
	431,000		545,000
	$V\text{-}M_{25}$		$V\text{-}M_{45}$

		Emission Factors	Emissions, TPY				
$V\text{-}M_{25}$							
431,000	X	0.000330 =	142				
		0.000198 =		86			
		0.104 =			44,800		
		0.0172 =				7,420	
		0.0099 =					4,260
$V\text{-}M_{45}$							
545,000	X	0.000330 =	180				
		0.000198 =		108			
		0.066 =			36,000		
		0.0128 =				7,000	
		0.0116 =					6,350
			322	194	80,800	14,400	10,610
			SP	SO_x	CO	HC	NO_x

TABLE 14 - 1970 MOTOR VEHICLE EMISSIONS
IN KANSAS PORTION OF KCAQCR

COUNTY AND SOURCE	EMISSIONS, TPY				
	SP	SO_x	CO	HC	NO_x
Johnson County					
Automotive	335	201	83300	14900	11000
Diesel	51	90	655	131	685
Leavenworth County					
Automotive	74	45	17100	3140	2510
Diesel	10	21	145	29	145
Wyandotte County					
Automotive	328	197	82300	14700	10800
Diesel	51	90	655	131	685
Kansas Totals					
Automotive	737	443	182700	32740	24310
Diesel	112	201	1455	291	1515

3.2 Motor Vehicle Emissions in Missouri Portion of AQCR

3.2.1 Buchanan, Cass and Ray Counties -

Automotive emissions for Buchanan, Cass, and Ray Counties were calculated based on 1970 vehicle-mile data obtained from the Missouri State Highway Commission (Appendix 3). Calculations for the Set II Pollutants are shown on Tables 15, 16, and 17 and calculations for the Set I Pollutants are shown on Table 18.

3.2.2 Clay, Jackson, and Platte Counties -

The Missouri State Highway Department does not have vehicle mile data for these counties on a county-wide basis since metropolitan Kansas City extends into each of these counties. The data (Appendix 3) is separated as follows:

a) Metropolitan area (comprising portions of all three counties)

b) Clay County - rural area

c) Jackson County - rural area

d) Platte County - rural area

Emissions in the rural areas were calculated from the vehicle-mile data shown in Appendix 3. Some portion of the Interstate and Primary vehicle miles driven in each county lies within the urban area. For apportioning purposes, it was assumed that the urban vehicle-miles are directly proportional to

TABLE 15. AUTOMOTIVE EMISSIONS - BUCHANAN CO., MO. (ST. JOSEPH AREA)

BASED ON 1970 DATA

ROAD NAME	FUNCTION	TRAFFIC COUNT, 1000 veh. per da.	LENGTH, Miles	ADT v-m/M mi. per da.	1000 VEHICLE - MILES, V-M		
					-25 MPH	25/45 MPH	45 MPH
St. Joe Urban	Interstate						62
	Freeway-Expressway						68
	Other Principal						385
	Minor Arterial				108		
	Collector				52		
	Local				232		
Rural Co. Rds.	County Rds.					127	
Rural State Rds.	Interstate						86
	Primary						118
	Supplementary				209		
					591	127	719
					+ 64	50% <-1-> 50%	+ 64
					655		783
					X 365		X 365
					239000		286000
					$V\text{-}M_{25}$		$V\text{-}M_{45}$

	EMISSION FACTORS	EMISSIONS, TPY		
$V\text{-}M_{25}$ 239000 X	0.104 =	25900		
	0.0172 =		4270	
	0.0099 =			2370
$V\text{-}M_{45}$ 286000 X	0.066 =	18800		
	0.0128 =		3640	
	0.0116 =			3300
TOTAL EMISSIONS, TPY		44,700	7,910	5,670
		CO	HC	NO_x

BUCHANAN CO.

TABLE 16. AUTOMOTIVE EMISSIONS - CASS CO., MO.

BASED ON 1970 DATA

ROAD NAME	FUNCTION	TRAFFIC COUNT, 1000 veh. per da.	LENGTH, Miles	ADT v-m/M mi. per da.	1000 VEHICLE - MILES, V-M		
					25 MPH	25/45 MPH	45 MPH
Cass Co.	Interstate						-0-
	Primary						359
	Supplementary				178		
	County Roads					244	

		EMISSION FACTORS	EMISSIONS, TPY		
$V\text{-}M_{25}$ 110,000	X	0.104 =	114,000		
		0.0172 =		1,890	
		0.0099 =			1,090
$V\text{-}M_{45}$ 176,000	X	0.066 =	11,600		
		0.0128 =		2,250	
		0.0116 =			2,040
TOTAL EMISSIONS, TPY			23,000	4,140	3,130
			CO	HC	NO_x

178	244	359
+ 122	50% ← | → 50%	+ 122
300		481
X 365		X 365
110,000		176,000
$V\text{-}M_{25}$		$V\text{-}M_{45}$

Cass Co.

TABLE 17. AUTOMOTIVE EMISSIONS - RAY CO., MO.

BASED ON 1970 DATA

ROAD NAME	FUNCTION	TRAFFIC COUNT, 1000 veh. per da.	LENGTH, Miles	ADT v-m/M mi. per da.	1000 VEHICLE - MILES, V-M		
					25 MPH	25/45 MPH	45 MPH
Ray Co.	Interstate						-0-
	Primary						136
	Supplementary				64		
	County Roads					176	

	64	176	136
	+ 88	50% ← | → 50%	+ 88
	152		224
	X 365		X 365
	55,600		82,000
	$V\text{-}M_{25}$		$V\text{-}M_{45}$

		EMISSION FACTORS	EMISSIONS, TPY		
$V\text{-}M_{25}$ 55,600	X	0.104 =	5,800		
		0.0172 =		950	
		0.0099 =			540
$V\text{-}M_{45}$ 82,000	X	0.066 =	5,420		
		0.0128 =		1,050	
		0.0116 =			950
TOTAL EMISSIONS, TPY			11,200 CO	2,000 HC	1,490 NO

Ray Co.

TABLE 18 - SET I POLLUTANTS
AUTOMOTIVE EMISSIONS FOR BUCHANAN,
CASS, AND RAY COUNTIES
1970 DATA

County	10^3 Vehicle Miles	Emission Factors, Tons/10^3 VM		Emissions, TPY[a]	
		SP	SO_x	SP	SO_x
Buchanan	525,000	0.000330	0.000198	173	104
Cass	286,000	0.000330	0.000198	95	56
Ray	138,000	0.000330	0.000198	45	27

a) Not including adjustment for diesels.

the total vehicle-miles of Interstate and Primary in each county. Based on the data shown in Table 19, the following vehicle-mile allocation was made:

	Rural V-M	
County	Interstate	Primary
Platte	65	81
Jackson	445	274
Clay	157	142

The calculations for rural emissions are shown in Tables 20 - 22.

Using the data from Appendix 4, urban emissions were calculated in Table 23. These emissions emanate from the Kansas City Urban-In-Fact area. The grids which constitute the Urban-In-Fact Area[a] are shown in Table 24. The Kansas City Air Pollution Control Agency has supplied a listing of vehicle miles in each grid, (Appendix 4). While it has been determined that the data is not correct, it is felt that the numbers are relatively accurate. Thus, this data was used to weigh each grid relative to each other. See Table 24. Emissions of all pollutants were assumed to be directly proportional to carbon monoxide emissions. Using this rationale it is seen from Table 24 that the Urban-In

---

a) Area defined by the Missouri State Highway Commission. See Figure 3.1.

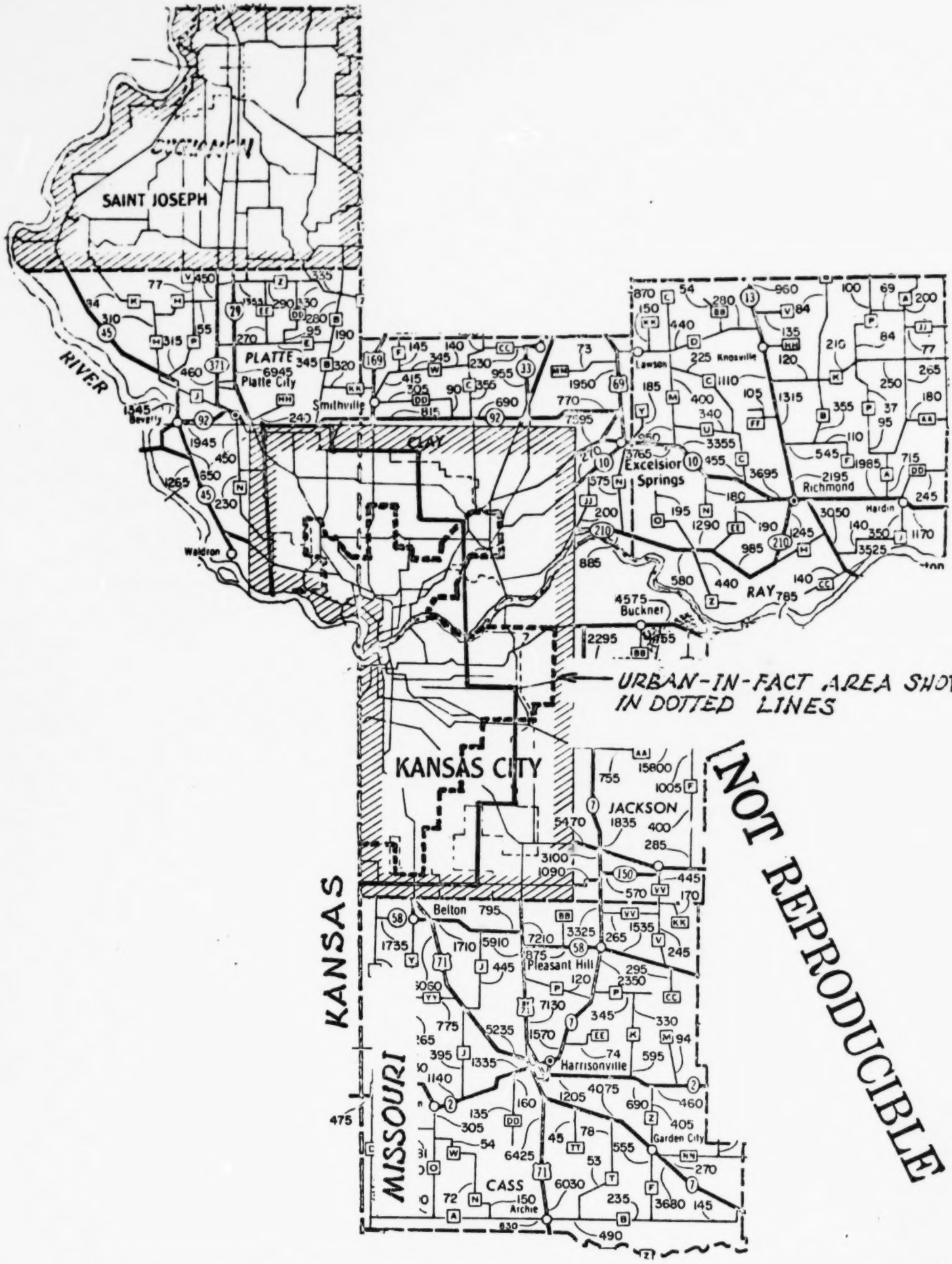

FIGURE 3.1 - MISSOURI PORTION OF KANSAS CITY AIR QUALITY CONTROL REGION SHOWING URBAN-IN-FACT AREA

Fact vehicle-miles and emissions should be distributed as follows:

Platte County	0.8%
Clay County	12.0%
Jackson County -	87.2%

Applying these percentages to the emissions from Table 23 we have:

County	Urban Automotive Emissions, TPY[a]				
	SP	SO_x	CO	HC	NO_x
Platte	8	5	2,200	340	290
Clay	123	74	33,800	5,860	3,910
Jackson	895	537	246,000	42,600	28,400

a) Not adjusted for diesel.

Total automotive emissions for each county consists of the urban emissions plus the rural emissions shown in Tables 20 - 22.

However these figures are based on the assumption that all vehicle-miles are due to gasoline driven vehicles. Thus that portion of vehicle-miles attributable to diesels must be deducted and the calculated diesel emissions must be added to the remaining gasoline powered vehicle emissions. For this adjustment it was assumed that the diesel mileage

in the Missouri portion of the AQCR is proportional to that in the Kansas portion -- or 2% of the total.[b] Total vehicle-miles per Tables 15, 16, 17, 20, 21, 22, and 23 are 5,237 million distributed as follows:

	10^6 Vehicle-Miles			
	Rural	Urban	Total	Diesel Portion
Buchanan County	525	0	525	10.5
Cass County	286	0	286	5.7
Ray County	138	0	138	2.8
Clay County	331	374	705	14.1
Jackson County	659	2710	3369	67.4
Platte County	188	26	214	4.3

Total motor vehicle emissions in the Missouri Portion of the AQCR are shown in Table 26. Automotive emissions are 98% of the values shown in Table 25.

---

b) See Section 3.1

TABLE 19 - COMPARISON OF INTERSTATE AND PRIMARY VEHICLE MILES IN PLATTE,. JACKSON AND CLAY COUNTIES

	1000 Vehicle Miles		Percent of Total	
	Interstate	Primary	Interstate	Primary
County				
Platte	199	192	9.8	16.1
Jackson	1354	657	66.6	55.3
Clay	478	341	23.6	23.6
Total	2031	1190	100.0	100.0
Less Urban V-M	1364	693		
Rural V-M	667	497		

TABLE 20 - AUTOMOTIVE EMISSIONS FOR CLAY COUNTY
RURAL AREA - 1970 DATA

ROAD FUNCTION	1000 VEHICLE-MILES, V-M		
	25 MPH	25/45 MPH	45 MPH
Interstate Expressway			158
Primary Roads			141
Supplementary Roads	482		
County Roads		126	
	482	126	299
	+ 63	50% ⟷ 50%	+ 63
	545		362
	X 365		X 365
	199,000 $V\text{-}M_{25}$		132,000 $V\text{-}M_{45}$

	Emission Factors	Emissions, TPY				
$V\text{-}M_{25}$ 199,000 X	0.000330 =	65				
	0.000198 =		40			
	0.104 =			20,600		
	0.0172 =				3,420	
	0.0099 =					1,970
$V\text{-}M_{45}$ 132,000 X	0.000330 =	44				
	0.000198 =		25			
	0.066 =			8,700		
	0.0128 =				1,690	
	0.0116 =					1,530
		109 SP	65 SO_x	29,300 CO	5,110 HC	3,500 NO_x

TABLE 21 - AUTOMOTIVE EMISSIONS FOR JACKSON COUNTY

RURAL AREA - 1970 DATA

ROAD FUNCTION	1000 VEHICLE-MILES, V-M		
	25 MPH	25/45 MPH	45 MPH
Interstate Expressway			446
Primary Roads			273
Supplementary Roads	915		
County Roads		173	
	915	173	719
	+ 86	50% ⟷ 50%	+ 86
	1,001		805
	X 365		X 365
	365,000 $V\text{-}M_{25}$		294,000 $V\text{-}M_{45}$

	Emission Factors	Emissions, TPY				
$V\text{-}M_{25}$ 365,000	X 0.000330 =	120				
	0.000198 =		72			
	0.104 =			38,000		
	0.0172 =				6,280	
	0.0099 =					3,610
$V\text{-}M_{45}$ 294,000	X 0.000330 =	96				
	0.000198 =		58			
	0.066 =			19,400		
	0.0128 =				3,780	
	0.0116 =					3,420
		216	130	57,400	10,060	7,030
		SP	SO_x	CO	HC	NO_x

TABLE 22 - AUTOMOTIVE EMISSIONS FOR PLATTE COUNTY

RURAL AREA - 1970 DATA

ROAD FUNCTION	1000 VEHICLE-MILES, V-M		
	25 MPH	25/45 MPH	45 MPH
Interstate Expressways			65
Primary Roads			80
Supplementary Roads	169		
County Roads		203	
	169	203	145
	+ 101	50% ⟷ 50%	+ 101
	270		246
	X 365		X 365
	98,500		90,000
	$V\text{-}M_{25}$		$V\text{-}M_{45}$

		Emission Factors	Emissions, TPY				
$V\text{-}M_{25}$							
98,500	X	0.000330 =	32				
		0.000198 =		19			
		0.104 =			10,300		
		0.0172 =				1,700	
		0.0099 =					975
$V\text{-}M_{45}$							
90,000	X	0.000330 =	30				
		0.000198 =		18			
		0.066 =			5,900		
		0.0128 =				1,150	
		0.0116 =					1,050
			62	37	16,200	2,850	2,030
			SP	SO_x	CO	HC	NO_x

TABLE 23 - AUTOMOTIVE EMISSIONS FOR KANSAS CITY, MISSOURI URBAN AREA
1970 DATA

ROAD FUNCTION	1000 VEHICLE-MILES, V-M		
	25 MPH	25/45 MPH	45 MPH
Interstate			1,364
Other Expressways			693
Other Primary Arterial		1,856	
Minor Arterial	1,557		
Collector Streets	473		
Local Streets	2,532		
	4,562	1,856	2,057
	+ 928	50% ⟷ 50%	+ 928
	5,490		2,985
	X 365		X 365
	2,020,000		1,090,000
	$V\text{-}M_{25}$		$V\text{-}M_{45}$

	Emission Factors	Emissions, TPY				
$V\text{-}M_{25}$ 2,020,000 X	0.000330 =	666				
	0.000198 =		400			
	0.104 =			210,000		
	0.0172 =				34,800	
	0.0099 =					20,000
$V\text{-}M_{45}$ 1,090,000 X	0.000330 =	360				
	0.000198 =		216			
	0.066 =			71,800		
	0.0128 =				14,000	
	0.0116 =					12,600
		1,026	616	282,000	48,800	32,600
		SP	SO_x	CO	HC	NO_x

TABLE 24 - RELATIVE EMISSIONS BY GRID IN KANSAS CITY, MISSOURI URBAN-IN-FACT AREA

County	Grid No.	10^3 Vehicle-Miles 25 MPH	10^3 Vehicle-Miles 45 MPH	CO Emissions, TPD 25 MPH	CO Emissions, TPD 45 MPH	Relative Weight (Total CO Emiss.
Platte	90	21.9	30.1	2.27	1.99	4.26
	112	0.3	0	0.04	0	
				Subtotal-Platte Co.		4.26
Clay[a]	81	7.7	17.2	0.80	1.17	1.97
	82	2.4	5.9	0.26	0.39	0.65
	91	100.1	11.3	10.40	0.74	11.10
	92	33.1	0	3.45	0	3.45
	93	3.1	9.5	0.32	0.63	0.95
	113	37.9	245.5	3.94	16.20	20.10
	114	144.1	122.7	15.00	8.10	23.10
	115	14.7	0	1.53	0	1.53
	126	0.3	1.2	0.03	0.08	0.11
	127	0.8	1.3	0.08	0.09	0.17
	128	7.4	0	0.77	0	0.77
	131	11.5	6.4	1.20	0.43	1.63
	132	22.0	13.3	2.28	0.89	3.17
				Subtotal-Clay Co.		68.70
Jackson[b]	129, 133-149					131.3
	150	34.1	0	3.5	0	3.5
	173	701.0	0	73.0	0	73.0
	174	618.0	0	64.2	0	64.2
	175	207.0	0	21.5	0	21.5
	179	253.0	78.0	26.3	5.2	31.5
	180	24.8	0	2.6	0	2.6
	197	275.0	0	28.6	0	28.6
	198	408.0	0	42.5	0	42.5

TABLE 24 (continued)

County	Grid No.	10^3 Vehicle-Miles 25 MPH	10^3 Vehicle-Miles 45 MPH	CO Emissions, TPD 25 MPH	CO Emissions, TPD 45 MPH	Relative Weight (Total CO Emiss.
Jackson (cont.)	199	225.0	33.6	23.5	2.2	25.7
	200	80.5	0	8.4	0	8.4
	207	166.0	14.7	17.3	1.0	18.3
	208	119.0	48.6	12.4	3.2	15.6
	209	74.1	0	7.6	0	7.6
	225	75.9	0	7.9	0	7.9
	226	83.0	23.3	8.6	1.6	10.2
	227	28.1	5.9	2.9	0.4	3.3
	236	25.7	10.8	2.7	0.7	3.4
					Subtotal-Jackson Co.	499.10
					Total-Urban-In-Fact Area	572.06

(a) Grids 84 and 94 are included in Area; there is no data for these grids.

(b) Grids 176, 177, and 187 are included in Area; there is no data for these grids.

TABLE 25 - AUTOMOTIVE EMISSIONS
FOR MISSOURI PORTION OF KCAQCR[a] .

County		Emissions, TPY				
		SP	SO_x	CO	HC	NO_x
Buchanan		173	104	44700	7910	5670
Cass		95	56	23000	4140	3130
Ray		45	27	11200	2000	1490
Clay	Urban	123	74	33800	5860	3910
	Rural	109	65	29300	5110	3500
	Total	232	139	63100	10970	7410
Jackson	Urban	895	537	246000	42600	28400
	Rural	216	130	57400	10060	7030
	Total	1111	667	303400	52660	35430
Platte	Urban	8	5	2200	340	290
	Rural	62	37	16200	2850	2030
	Total	70	42	18400	3190	2320

a) Not adjusted for diesel.

TABLE 26 - 1970 MOTOR VEHICLE EMISSIONS IN MISSOURI PORTION OF KCAQCR

County and Source		Emissions, TPY[a]				
		SP	SO_x	CO	HC	NO_x
Buchanan	Automotive	170	102	43800	7750	5550
	Diesel	26	47	342	68	360
Cass	Automotive	93	55	22600	4060	3070
	Diesel	14	26	186	38	190
Ray	Automotive	44	26	11000	1960	1460
	Diesel	7	13	92	18	90
Clay	Automotive	228	136	62000	10700	7260
	Diesel	35	63	458	86	480
Jackson	Automotive	1090	655	298000	51600	34800
	Diesel	165	307	2200	440	2250
Platte	Automotive	69	41	18100	3130	2280
	Diesel	11	19	140	27	146
Missouri Totals	Automotive	1694	1015	455500	79200	54420
	Diesel	258	475	3418	677	3516

a) See Section 3.1 for diesel emission factors.

4.0 CALCULATION OF "EMISSIONS ACHIEVED"

Column b of the Appendix D form is the 1970 emission after application of the control regulations set forth in the state's Implementation Plan. It was determined that the reductions shown in Table 27 would result. These reductions were applied to all applicable area sources and point sources. It was assumed that no area sources are currently controlled. Where the Kansas and Missouri Printouts indicate a control device for a point source, column "b" emissions were not reduced unless the existing control device was less efficient than required by the regulation. Where the regulations are on a sliding-scale basis, the resultant allowable emissions shown in Table 27 are estimates of the effect of the regulation on the average sized operation.

TABLE 27 - EFFECT OF STATE AIR POLLUTION CONTROL REGULATIONS ON 1970 EMISSIONS

Emission Source	Applicable Reguation No.		Pollutant regulated	Percent Emissions Allowed after control	
	Kansas	Missouri		Kansas	Missouri
A. Coal-fired indirect heat exchangers	28-19-31		SO_x	(a)	
10^7 btuh	28-19-30	S-VI	SP	10	10
10^9 btuh	28-19-30	S-VI	SP	6	3
10^{10} btuh	28-19-30		SP	4	
10^{10} btuh		S-VI	SP		2
250 x 10^6 btuh	28-19-31		NO_x	95	
B. Incinerators	28-19-41	S-IV	SP	5	5
C. Open burning	28-19-45	S-III	All pollut.	0	0
D. Petroleum	28-19-23		HC	30	
E. Process not listed separately					
10^5 lb/hr	28-19-20	S-V	SP	10	10
10^5 lb/hr	28-19-20	S-V	SP	5	5
F. Other processes					
1. Smelters	28-19-22	S-X	SO_2	10	10
2. Sulfuric acid mfg.	28-19-22	S-X	SO_2	2	2
3. H_2S waste gas	28-19-22		SO_2	2	
4. Foundries	28-19-24	S-V	CO	10	10
5. Refineries	28-19-24		CO	10	
6. Oil blowdown			HC	10	
7. Ethylene mfgr.	28-19-23		HC	10	
8. Nitric acid mfgr.	28-19-25		NO_x	5	

a) Equivalent to 1% Sulfur content coal.

5.0 APPENDIX D

Appendix D (nomenclature per Federal Register) has been compiled for the KCAQCR in the form of five tables, (one for each pollutant). Each table consists of ten pages and is identified by pollutant.

APPENDIX D *S. PACTICULATE* EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
I.Fuel combustion-stationary sources:												
A.Residential fuel:												
1.Anthracite coal:												
a.Area sources												
b.Point sources												
2.Bituminous coal:												
a.Area sources												
b.Point sources												
3.Distillate oil:												
a.Area sources												
b.Point sources												
4.Residual oil:												
a.Area sources												
b.Point sources												
5.Natural Gas:												
a.Area sources	25	25	31	31	64	64	4	4	185	185	10	10
b.Point sources												
6.Wood												
a.Area sources												
b.Point sources												
7.Other (specify):												
a.Area sources												
b.Point sources												
8.Total	25	25	31	31	64	64	4	4	185	185	10	10

a) Existing emissions
b) Emissions achieved

Pollutant S.P.

AQCR Kansas City

APPENDIX D — PARTICULATE EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
I. Fuel combustion-stationary sources:												
A. Residential fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	34	34	41	41	9	9	84	84			84	84
b. Point sources												
3. Distillate oil:												
a. Area sources	17	17	4	4	2	2	23	23			23	23
b. Point sources												
4. Residual oil:												
a. Area sources												
b. Point sources												
5. Natural Gas:												
a. Area sources	119	119	15	15	91	91	225	225	319	319	544	544
b. Point sources												
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	170	170	60	60	102	102	332	332	319	319	651	651

a) Existing emissions
b) Emissions achieved

Pollutant S.P.

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources												
b. Point sources												
3. Distillate oil:												
a. Area sources	2	2	1	1	5	5			10	10	18	18
b. Point sources									1	1		
4. Residual oil:												
a. Area sources					2	2			5	5	7	7
b. Point sources												
5. Natural Gas:												
a. Area sources	9	9	10	10	23	23	1	1	66	66	2	2
b. Point sources												
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	11	11	11	11	30	30	1	1	82	82	27	27
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources									24	2	24	2
b. Point sources									111	111		
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources			1	1	4	4			9	9	14	14
b. Point sources												

Pollutant S.P.

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	732	73	38	4			770	77			770	77
b. Point sources												
3. Distillate oil:												
a. Area sources	2	2	1	1	52	52	55	55	36	36	91	91
b. Point sources			4	4	18	18	22	22	1	1	23	23
4. Residual oil:												
a. Area sources	5	5	1	1	1	1	7	7	14	14	21	21
b. Point sources	26	26	31	31	42	42	99	99			99	99
5. Natural Gas:												
a. Area sources	14	14	22	22	2	2	38	38	111	111	149	149
b. Point sources			4	4			4	4			4	4
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	779	120	101	67	115	115	995	302	162	162	1157	464
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	89	9	128	13	4201	420	4421	442	48	4	4469	446
b. Point sources									111	111	111	111
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources	3	3	1	1	8	8	12	12	28	28	40	40
b. Point sources												

Pollutant S.P.

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources	3	3	2	2	7	7			20	20	0	0
b.Point sources					20	20	22	22	17	17		
6.Natural gas:												
a.Area sources	28	28	32	32	61	61	3	3	167	167	14	14
b.Point sources					2	2			277	277		
7.Process gas:												
a.Area sources												
b.Point sources												
* 8.Other (specify):												
a.Area sources												
b.Point sources	8	8			837	837			5028	4506		
9.Total	39	39	35	35	931	931	25	25	5453	5109	52	30
D.Steam-electric power plant fuel (point sources only):												
1.Anthracite coal												
2.Bituminous coal					7293	3691			1677	209		
3.Coke												
4.Distillate oil												
5.Residual oil												
6.Natural gas												
7.Process gas												
* 8.Other (specify)	64	8							5132	5132		
9.Total	64	8			7393	3697			6809	5341		
E.Total stationary fuel combustion	139	83	77	77	8418	4722	30	30	12729	10717	89	67
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries									16	16		
2.Food and agricultural industries	666	135			1782	520	474	100	7789	436		

* Multi-fuel boilers; coal, oil, and gas.

Pollutant S.P.

AQCR Kansas City

Source Category	STATE OF KANSAS: Johnson County		Leavenworth County		Wyandotte County		Kansas Region Total		Missouri Region Total		Region Total	
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources	15	15	3	3	37	37	55	55	32	32	87	87
b.Point sources									59	59	59	59
6.Natural gas:												
a.Area sources	15	15	2	2	13	13	30	30	305	305	335	335
b.Point sources									279	279	279	279
7.Process gas:												
a.Area sources												
b.Point sources	1	1			161	161	162	162			162	162
8.Other (specify):												
a.Area sources												
b.Point sources									5873	5351	5873	5351
9.Total	123	43	134	19	4423	639	4680	701	6735	6169	11415	6870
D.Steam-electric power plant fuel (point sources only):												
1.Anthracite coal												
2.Bituminous coal					509	136	509	136	9070	3906	9579	4042
3.Coke												
4.Distillate oil												
5.Residual oil												
6.Natural gas					51	51	51	51			51	51
7.Process gas												
8.Other (specify)									5776	5140	5826	5140
9.Total					560	187	560	187	14266	9046	14826	9233
E.Total stationary fuel combustion	1072	333	295	146	5200	1043	6567	1522	21482	15696	28049	17218
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries					273	273	273	273	16	16	289	289
2.Food and agricultural industries					3212	694	3217	694	10711	1491	13923	2185

Pollutant S.P.

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries					1	1	6054	312	6626	1801		
4.Mineral products industries	1	1					5400	540	36121	1821	2115	167
5.Petroleum refining and petrochemical operations	645	249	9	1	644	134			1649	131	2142	107
6.Wood processing									1	1		
7.Petroleum storage									460	46		
8.Miscellaneous												
C.Total process losses	1312	385	9	1	2427	655	11928	1252	52662	4252	4587	274
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	4	0	2	0	3	0	1	0	6	0	4	0
b.Point sources									129	13		
2.Municipal, etc.:												
a.Area sources												
b.Point sources												
B.Open burning:												
1.On-site:												
a.Area sources	170	0	208	0	412	0	31	0	1147	0	80	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources												
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	174	0	210	0	415	0	32	0	1782	13	84	0

Pollutant S.P.
AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries					841	119	841	119	12681	2114	13522	2233
4.Mineral products industries					15821	4085	15821	4085	43967	2529	59788	6614
5.Petroleum refining and petrochemical operations					931	876	931	876	5089	622	6020	1498
6.Wood processing									1	1	1	1
7.Petroleum storage												
8.Miscellaneous					15	2	15	2	460	46	475	48
C.Total process losses	0	0	0	0	21093	6049	21093	6049	72975	6819	94018	12868
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	414	20			91	5	508	25	20	0	528	25
b.Point sources					92	5	92	5	129	13	221	18
2.Municipal, etc.:												
a.Area sources												
b.Point sources					123	6	123	6			123	6
B.Open burning:												
1.On-site:												
a.Area sources	205	0	125	0	71	0	401	0	2048	0	2449	0
b.Point sources												
2.Dumps												
a.Area sources					712	0	712	0			712	0
b.Point sources												
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	619	20	125	0	1092	16	1836	36	2197	13	4033	49

Pollutant S.P

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:												
1. Gasoline powered	170	170	69	69	228	228	44	44	1090	1090	93	93
2. Diesel powered	26	26	11	11	35	35	7	7	165	165	14	14
B. Off-highway fuel usage												
C. Aircraft	212	212	28	28	321	321			7	7	4	4
D. Railroads	42	42	92	92	43	43	49	49	166	166	160	160
E. Vessels	1	1	12	12	7	7			3	3		
F. Gasoline handling evaporation losses												
G. Other (specify)												
H. Total transportation	451	451	212	212	634	634	100	100	1431	1431	271	271
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
E. Other (specify)												
F. Total miscellaneous												
VI. Grand totals												
A. Area sources	692	518	499	289	1215	800	140	108	3070	1895	444	338
B. Point sources	1384	701	9	1	10679	5211	11950	1274	65034	14518	4587	274
C. Total	2076	919	508	290	11894	6011	12090	1382	68104	16413	5031	612

Pollutant S.P.

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:	335	335	74	74	328	328	737	737	1694	1694	2431	2431
1. Gasoline powered	51	51	10	10	51	51	112	112	258	258	370	370
2. Diesel powered												
B. Off-highway fuel usage	19	19	21	21	429	429	469	469	572	572	1041	1041
C. Aircraft	402	402	280	280	649	649	1331	1331	552	552	1883	1883
D. Railroads			4	4	3	3	7	7	23	23	30	30
E. Vessels												
F. Gasoline handling evaporation losses												
G. Other (specify)												
H. Total transportation	807	807	389	389	1460	1460	2656	2656	3099	3099	5755	5755
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
E. Other (specify)												
F. Total miscellaneous												
VI. Grand totals												
A. Area sources	2471	1133	770	496	6044	2100	9285	3729	6060	3948	15345	7677
B. Point sources	27	27	39	39	22801	6468	22867	6534	93643	21674	116510	28213
C. Total	2498	1160	809	535	28845	8568	32152	10263	99703	25627	131855	35890

Pollutant S.P.

AQCR Kansas City

APPENDIX D *SULFUR OXIDES* EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
I.Fuel combustion-stationary sources:												
A.Residential fuel:												
1.Anthracite coal:												
a.Area sources												
b.Point sources												
2.Bituminous coal:												
a.Area sources												
b.Point sources												
3.Distillate oil:												
a.Area sources	4	4	4	4	9	9			27	27	1	1
b.Point sources												
4.Residual oil:												
a.Area sources												
b.Point sources												
5.Natural Gas:												
a.Area sources					2	2			2	2		
b.Point sources												
6.Wood												
a.Area sources												
b.Point sources												
7.Other (specify):												
a.Area sources												
b.Point sources												
8.Total	4	4	4	4	11	11			29	29	1	1

a) Existing emissions
b) Emissions achieved

Pollutant SO_x

AQCR Kansas City

APPENDIX D *SULFUR OXIDES* EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF KANSAS											
	Johnson County		Leavenworth County		Wyandotte County		Kansas Region Total		Missouri Region Total		Region Total	
	a	b	a	b	a	b	a	b	a	b	a	b
I.Fuel combustion-stationary sources:												
A.Residential fuel:												
1.Anthracite coal:												
a.Area sources												
b.Point sources												
2.Bituminous coal:												
a.Area sources	252	252	302	302	65	65	619	619			619	619
b.Point sources												
3.Distillate oil:												
a.Area sources	67	67	15	15	8	8	90	90	45	45	135	135
b.Point sources												
4.Residual oil:												
a.Area sources												
b.Point sources												
5.Natural Gas:												
a.Area sources	4	4			3	3	7	7	4	4	11	11
b.Point sources												
6.Wood												
a.Area sources												
b.Point sources												
7.Other (specify):												
a.Area sources												
b.Point sources												
8.Total	323	323	317	317	76	76	716	716	49	49	765	765

a) Existing emissions
b) Emissions achieved

Pollutant SO_x

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources												
b. Point sources												
3. Distillate oil:												
a. Area sources	15	15	16	16	39	39	1	1	103	103	5	5
b. Point sources									13	13		
4. Residual oil:												
a. Area sources	16	16	19	19	45	45	1	1	127	127	6	6
b. Point sources							251	251				
5. Natural Gas:												
a. Area sources												
b. Point sources												
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	31	31	35	35	84	84	253	253	243	243	11	11
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources									25	25		
b. Point sources												
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources	15	15	17	17	32	32	1	1	89	89	6	6
b. Point sources												

Pollutant SOx

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources *	2166	992	112	25			2278	517			2278	517
b. Point sources												
3. Distillate oil:												
a. Area sources	6	6	1	1	135	135	142	142	179	179	321	321
b. Point sources			5	5	39	39	44	44	13	13	57	57
4. Residual oil:												
a. Area sources	39	39	9	9	6	6	54	54	214	214	268	268
b. Point sources	102	102	249	249	104	104	450	450	251	251	701	701
5. Natural Gas:												
a. Area sources			1	1			1	1			1	1
b. Point sources					4	4	4	4			4	4
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	2313	639	372	285	288	288	2973	1212	657	657	3630	1869
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources *	101	22	146	32	4782	1040	5029	1094	25	25	5054	1119
b. Point sources												
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources	9	9	2	2	21	21	32	32	160	160	192	192
b. Point sources												

* ASSUMED SULPHUR CONTENT, 4.4 %

Pollutant SOx

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources	57	57	64	64	112	112	6	6	295	295	16	16
b.Point sources					221	221	251	251				
6.Natural gas:												
a.Area sources					2	2			2	2		
b.Point sources					1	1						
7.Process gas:												
a.Area sources												
b.Point sources									230388	230388		
* 8.Other (specify):												
a.Area sources												
b.Point sources	90	90			2786	2786			213826	213826		
9.Total	162	162	81	81	3154	3154	258	258	444625	444625	22	22
D.Steam-electric power plant fuel (point sources only):												
1.Anthracite coal												
2.Bituminous coal					14545	14545			265270	265270		
3.Coke												
4.Distillate oil												
5.Residual oil												
6.Natural gas												
7.Process gas												
* 8.Other (specify)	1403	1403							22024	22024		
9.Total	1403	1403			14545	14545			287294	287294		
E.Total stationary fuel combustion	1600	1600	120	120	17794	17794	511	511	732191	732191	34	34
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries									493	493		
2.Food and agricultural industries												

* Multi-fuel boilers; coal, oil, and gas.

Pollutant SO_x

AQCR . Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources	128	128	28	28	307	307	463	463	550	550	1013	1013
b.Point sources									472	472	472	472
6.Natural gas:												
a.Area sources	1	1					1	1	4	4	5	5
b.Point sources									1	1	1	1
7.Process gas:												
a.Area sources												
b.Point sources									230388	230388	230388	230388
8.Other (specify):												
a.Area sources									216702	216702	216702	216702
b.Point sources												
9.Total	239	160	176	62	5110	1368	5525	1590	448302	448302	453827	449892
D.Steam-electric power plant fuel (point sources only):												
1.Anthracite coal												
2.Bituminous coal *					17129	5020	17129	5020	279815	279815	296944	284835
3.Coke												
4.Distillate oil												
5.Residual oil												
6.Natural gas					2	2	2	2			2	2
7.Process gas												
8.Other (specify)									23427	23427	23427	23427
9.Total					17131	5022	17131	5022	303242	303242	320373	308264
E.Total stationary fuel combustion	2875	1122	865	664	22605	6754	26345	8540	752250	752250	778595	760790
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries									493	493		
2.Food and agricultural industries												

* 3.4% Sulfur

Pollutant SO_x

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries									80	80		
4.Mineral products industries									7	7		
5.Petroleum refining and petrochemical operations			36	36					125	125		
6.Wood processing												
7.Petroleum storage												
8.Miscellaneous												
C.Total process losses			36	36					705	705		
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	1	1										
b.Point sources									319	319		
2.Municipal, etc.:												
a.Area sources												
b.Point sources												
B.Open burning:												
1.On-site:												
a.Area sources	9	0	10	0	24	0	1	0	67	0	2	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources												
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	10	1	10	0	24	0	1	0	386	319	2	0

Pollutant SOx

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries					2	2	2	2	80	80	82	82
4.Mineral products industries					123	123	123	123	7	7	130	130
5.Petroleum refining and petrochemical operations					533	533	533	533	161	161	694	694
6.Wood processing												
7.Petroleum storage												
8.Miscellaneous												
C.Total process losses					658	658	658	658	741	741	1399	1399
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	89	89			20	20	109	109	1	1	110	110
b.Point sources					8	8	8	8	319	319	327	327
2.Municipal, etc.:												
a.Area sources												
b.Point sources					11	11	11	11			11	11
B.Open burning:												
1.On-site:												
a.Area sources	13	0	8	0	4	0	25	0	113	0	138	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources					18	0	18	0	0	0	18	0
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	102	89	8	0	61	39	171	128	433	320	604	448

Pollutant SOx

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:												
1. Gasoline powered	102	102	41	41	136	136	26	26	655	655	55	55
2. Diesel powered	47	47	19	19	63	63	13	13	307	307	26	26
B. Off-highway fuel usage									10	10	8	8
C. Aircraft	73	73	41	41	141	141			443	443	417	417
D. Railroads	111	111	243	243	141	141	132	132				
E. Vessels	3	3	58	58	29	29						
F. Gasoline handling evaporation losses												
G. Other (specify)												
H. Total transportation	336	336	402	402	510	510	171	171	1415	1415	506	506
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
E. Other (specify)												
F. Total miscellaneous												
VI. Grand totals												
A. Area sources	453	444	532	522	775	751	181	180	2152	2085	542	540
B. Point sources	1493	1493	36	36	17553	17553	502	502	502157	502157	0	0
C. Total	1946	1937	568	558	18328	18304	683	682	504309	504242	542	540

Pollutant SO_x

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:	201	201	45	45	197	197	443	443	1015	1015	1458	1458
1. Gasoline powered	90	90	21	21	90	90	201	201	475	475	676	676
2. Diesel powered												
B. Off-highway fuel usage	188	188	67	67	226	226	481	481	273	273	754	754
C. Aircraft	1046	1046	728	728	1687	1687	3461	3461	1487	1437	4948	4948
D. Railroads			30	30	18	18	48	48	90	90	138	138
E. Vessels												
F. Gasoline handling evaporation losses												
G. Other (specify)												
H. Total transportation	1525	1525	891	891	2218	2218	4634	4634	3340	3340	7974	7974
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
E. Other (specify)												
F. Total miscellaneous												
VI. Grand totals	4400	2634	1515	1306	7569	3823	13484	7763	4635	4522	18119	12285
A. Area sources	102	102	249	249	17973	5846	18324	6197	752129	752129	770453	758326
B. Point sources												
C. Total	4502	2736	1764	1555	25542	9669	31808	13960	756764	756651	788572	770611

Pollutant SO_x

AQCR Kansas City

APPENDIX D *HYDROCARBON* EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
I.Fuel combustion-stationary sources:												
A.Residential fuel:												
1.Anthracite coal:												
a.Area sources												
b.Point sources												
2.Bituminous coal:												
a.Area sources												
b.Point sources												
3.Distillate oil:												
a.Area sources												
b.Point sources												
4.Residual oil:												
a.Area sources												
b.Point sources												
5.Natural Gas:												
a.Area sources			10	10	27	27	1	1	72	72	2	2
b.Point sources												
6.Wood												
a.Area sources												
b.Point sources												
7.Other (specify):												
a.Area sources												
b.Point sources												
8.Total			10	10	27	27	1	1	72	72	2	2

a) Existing emissions
b) Emissions achieved

Pollutant HC

AQCR Kansas City

APPENDIX D *HYDROCARBON* EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
I. Fuel combustion-stationary sources:												
A. Residential fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	18	18	22	22	5	5	45	45			45	45
b. Point sources												
3. Distillate oil:												
a. Area sources	5	5	1	1	1	1	7	7			7	7
b. Point sources												
4. Residual oil:												
a. Area sources												
b. Point sources												
5. Natural Gas:												
a. Area sources	50	50	6	6	38	38	94	94	112	112	206	206
b. Point sources												
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	73	73	29	29	44	44	146	146	112	112	258	258

a) Existing emissions
b) Emissions achieved

Pollutant HC

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources												
b. Point sources												
3. Distillate oil:												
a. Area sources												
b. Point sources												
4. Residual oil:												
a. Area sources												
b. Point sources												
5. Natural Gas:												
a. Area sources	4	4	3	3	9	9			26	26	1	1
b. Point sources												
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	4	4	3	3	9	9			26	26	1	1
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources												
b. Point sources									17	17		
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources												
b. Point sources												

Pollutant HC

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	155	155	8	8			163	163			163	163
b. Point sources												
3. Distillate oil:												
a. Area sources					10	10	10	10			10	10
b. Point sources			6	6	10	10	16	16			16	16
4. Residual oil:												
a. Area sources	1	1					1	1			1	1
b. Point sources	4	4	7	7	226	226	237	237			237	237
5. Natural Gas:												
a. Area sources	6	6	9	9	1	1	16	16	43	43	59	59
b. Point sources	3	3			80	80	83	83			83	83
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	169	169	30	30	327	327	526	526	43	43	569	569
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	1	1	1	1	29	29	31	31			31	31
b. Point sources									17	17	17	17
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources	1	1			2	2	3	3			3	3
b. Point sources												

Pollutant HC

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
5. Residual oil:												
a. Area sources					3	3	3	3				
b. Point sources												
6. Natural gas:												
a. Area sources	68	68	85	85	131	131	8	8	367	367	36	36
b. Point sources					5	5			2305	2305		
7. Process gas:												
a. Area sources												
b. Point sources												
* 8. Other (specify):												
a. Area sources					1285	1285			6397	6397		
b. Point sources	5	5			1432	1432	11	11	9146	9146	36	36
9. Total	73	73	85	85								
D. Steam-electric power plant fuel (point sources only):												
1. Anthracite coal					27	27			1486	1486		
2. Bituminous coal												
3. Coke												
4. Distillate oil												
5. Residual oil									20	20		
6. Natural gas												
7. Process gas									677	677		
* 8. Other (specify)	205	205							2183	2183		
9. Total	205	205			27	27						
E. Total stationary fuel combustion	282	282	98	98	1495	1495	12	12	11427	11427	39	39
II. Process losses:												
A. Area sources												
B. Point sources												
1. Chemical process industries									6151	6151		
2. Food and agricultural industries									677	677		

* Multi-fuel boilers; coal, oil, and nat. gas.

Pollutant HC

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources	2	2			5	5	7	7			7	7
b.Point sources									6	6	6	6
6.Natural gas:												
a.Area sources	33	33	4	4	29	29	66	66	703	703	769	769
b.Point sources									2370	2370	2370	2370
7.Process gas:												
a.Area sources												
b.Point sources												
8.Other (specify):												
a.Area sources									7687	7687	7687	7687
b.Point sources												
9.Total	37	37	5	5	65	65	107	107	10783	10783	10890	10890
D.Steam-electric power plant fuel (point sources only):												
1.Anthracite coal												
2.Bituminous coal					489	489	489	489	1513	1513	2002	2002
3.Coke												
4.Distillate oil												
5.Residual oil					137	137	137	137	20	20	157	157
6.Natural gas									882	882	882	882
7.Process gas												
8.Other (specify)												
9.Total					626	626	626	626	2415	2415	3041	3041
E.Total stationary fuel combustion	279	279	64	64	1062	1062	1405	1405	13353	13353	14758	14758
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries					30	30	30	30	6151	6151	6181	6181
2.Food and agricultural industries									677	677	677	677

Pollutant HC

AQCR Kansas City

NOT REPRODUCIBLE

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries									3298	3298		
4.Mineral products industries									40	40		
5.Petroleum refining and petrochemical operations			3	3					635	635		
6.Wood processing									12139	12139		
7.Petroleum storage												
8.Miscellaneous									674	674		
C.Total process losses			3	3					23614	23614		
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	1	1	1	1	2	2			3	3	1	1
b.Point sources									4	4		
2.Municipal, etc.:												
a.Area sources												
b.Point sources												
B.Open burning:												
1.On-site:												
a.Area sources	321	0	390	0	765	0	57	0	2155	0	143	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources												
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	322	1	391	1	767	2	57	0	2162	7	144	1

Pollutant HC

AQCR Kansas City

NOT REPRODUCIBLE

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries					1	1	1	1	3298	3298	3299	3299
4.Mineral products industries									40	40	40	40
5.Petroleum refining and petrochemical operations					6220	1859	6220	1859	638	638	6858	2497
6.Wood processing					161	161	161	161	12131	12131	12300	12300
7.Petroleum storage												
8.Miscellaneous					239	239	239	239	674	674	913	913
C.Total process losses					6651	2290	6651	2290	23617	23617	30268	25907
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	177	177			40	40	217	217	8	8	225	225
b.Point sources					7	7	7	7	4	4	11	11
2.Municipal, etc.:												
a.Area sources												
b.Point sources					10	10	10	10			10	10
B.Open burning:												
1.On-site:												
a.Area sources	385	0	235	0	132	0	752	0	3831	0	4583	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources					1184	0	1184	0			1184	0
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	562	177	235	0	1373	57	2170	234	3843	12	6013	246

Pollutant HC

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:												
1. Gasoline powered	7750	7750	3130	3130	10700	10700	1960	1960	51600	51600	4060	4060
2. Diesel powered	68	68	27	27	86	86	18	18	440	440	38	38
B. Off-highway fuel usage	665	665	177	177	1656	1656			127	127	92	92
C. Aircraft	87	87	188	188	87	87	93	93	341	341	322	322
D. Railroads	1	1	27	27	13	13			6	6		
E. Vessels												
F. Gasoline handling evaporation losses	980	980	1919	1919	973	973	230	230	801	801	664	664
G. Other (specify)												
H. Total transportation	9551	9551	5468	5468	13,515	13515	2301	2301	53315	53315	5176	5176
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
* E. Other (specify)	109	109	123	123	206	206	13	13	602	602	38	38
F. Total miscellaneous	109	109	123	123	206	206	13	13	602	602	38	38
VI. Grand totals												
A. Area sources	10054	9733	6080	5690	14663	13898	2380	2323	56540	54385	5397	5254
B. Point sources	210	210	3	3	1320	1320	3	3	34580	34580	0	0
C. Total	10264	9943	6083	5693	15983	15218	2383	2326	91120	88965	5397	5254

* Solvent evap.

Pollutant HC

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:												
1. Gasoline powered	14900	14900	3140	3140	14700	14700	32740	32740	79200	79200	111940	111940
2. Diesel powered	131	131	29	29	131	131	291	291	677	677	968	968
B. Off-highway fuel usage												
C. Aircraft	38	38	90	90	1498	1498	1626	1626	2717	2717	4343	4343
D. Railroads	805	805	560	560	1298	1298	2663	2663	1118	1118	3781	3781
E. Vessels			9	9	5	5	14	14	47	47	61	61
F. Gasoline handling evaporation losses									5567	5567	5567	5567
G. Other (specify)												
H. Total transportation	15874	15874	3828	3828	17632	17632	37334	37334	89326	89326	126660	126660
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
* E. Other (specify)	2684	2684	506	506	4241	4241	7431	7431	1091	1091	8522	8522
F. Total miscellaneous	2684	2684	506	506	4241	4241	7431	7431	1091	1091	8522	8522
VI. Grand totals												
A. Area sources	19392	19067	4620	4385	22165	22033	46177	45425	95114	91283	141291	136708
B. Point sources	7	7	13	13	8794	3249	8814	3269	36116	36116	44930	39385
C. Total	19399	19014	4633	4398	31959	25282	54991	48694	131230	127399	186221	176093

* Solvent evap.

Pollutant HC

AQCR Kansas City

APPENDIX D *CARBON MONOXIDE* EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
I.Fuel combustion-stationary sources:												
A.Residential fuel:												
1.Anthracite coal:												
a.Area sources												
b.Point sources												
2.Bituminous coal:												
a.Area sources												
b.Point sources												
3.Distillate oil:												
a.Area sources												
b.Point sources												
4.Residual oil:												
a.Area sources												
b.Point sources												
5.Natural Gas:												
a.Area sources	27	27	31	31	61	69	4	4	200	200	12	12
b.Point sources												
6.Wood												
a.Area sources												
b.Point sources												
7.Other (specify):												
a.Area sources												
b.Point sources												
8.Total	27	27	34	34	69	69	4	4	200	200	12	12

a) Existing emissions
b) Emissions achieved

Pollutant CO

AQCR Kansas City

APPENDIX D CARBON MONOXIDE EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
I. Fuel combustion-stationary sources:												
A. Residential fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	75	75	90	90	19	19	184	184			184	184
b. Point sources												
3. Distillate oil:												
a. Area sources	9	9	2	2	1	1	12	12			12	12
b. Point sources												
4. Residual oil:												
a. Area sources												
b. Point sources												
5. Natural Gas:												
a. Area sources	126	126	16	16	96	96	238	238	346	346	584	584
b. Point sources												
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	210	210	108	108	116	116	434	434	346	346	780	780

a) Existing emissions
b) Emissions achieved

Pollutant CO

AQCR Kansas City

NOT REPRODUCIBLE

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources												
b. Point sources									2	2		
3. Distillate oil:												
a. Area sources												
b. Point sources												
4. Residual oil:												
a. Area sources												
b. Point sources												
5. Natural Gas:												
a. Area sources	10	10	12	12	24	24	1	1	68	68	2	2
b. Point sources												
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	10	10	12	12	24	24	1	1	70	70	2	2
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources												
b. Point sources												
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources												
b. Point sources												

Pollutant CO

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	648	648	33	33			681	681			681	681
b. Point sources									2	2	2	2
3. Distillate oil:												
a. Area sources					1	1	1	1			1	1
b. Point sources												
4. Residual oil:												
a. Area sources												
b. Point sources					3	3	3	3			3	3
5. Natural Gas:												
a. Area sources	14	14	23	23	2	2	39	39	117	117	156	156
b. Point sources					31	31	31	31			31	31
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	662	662	56	56	37	37	755	755	119	119	874	874
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	1	1	2	2	57	57	60	60			60	60
b. Point sources												
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources												
b. Point sources												

Pollutant CO

AQCR Kansas City

NOT REPRODUCIBLE

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources												
b.Point sources					1	1						
6.Natural gas:												
a.Area sources									24	24		
b.Point sources					1	1						
7.Process gas:												
a.Area sources												
b.Point sources												
8.Other (specify):												
a.Area sources					15	15			309	309		
b.Point sources	2	2			2	2			24	24		
9.Total	2	2			17	17			333	333		
D.Steam-electric power plant fuel (point sources only):												
1.Anthracite coal												
2.Bituminous coal					62	62			4956	4956		
3.Coke												
4.Distillate oil												
5.Residual oil												
6.Natural gas												
7.Process gas									216	216		
* 8.Other (specify)	13	13			62	62			5172	5172		
9.Total	13	13			62	62			5172	5172		
E.Total stationary fuel combustion	52	52	46	46	172	172	5	5	5775	5775	14	14
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries												
2.Food and agricultural industries												

* Multi-fuel boilers; coal, oil, and nat. gas.

Pollutant CO

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources									1	1	1	1
b.Point sources												
6.Natural gas:												
a.Area sources									25	25	25	25
b.Point sources												
7.Process gas:												
a.Area sources												
b.Point sources												
8.Other (specify):												
a.Area sources									326	326	326	326
b.Point sources												
9.Total	1	1	2	2	57	57	60	60	352	352	412	412
D.Steam-electric power plant fuel (point sources only):												
1.Anthracite coal												
2.Bituminous coal					135	135	135	135	5018	5018	5153	5153
3.Coke												
4.Distillate oil												
5.Residual oil												
6.Natural gas					2	2	2	2			2	2
7.Process gas									229	229	229	229
8.Other (specify)												
9.Total					137	137	137	137	5247	5247	5384	5384
E.Total stationary fuel combustion	873	873	166	166	347	347	1386	1386	6064	6064	7450	7450
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries												
2.Food and agricultural industries												

Pollutant CO

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries									7335	7335		
4.Mineral products industries												
5.Petroleum refining and petrochemical operations									47	47		
6.Wood processing												
7.Petroleum storage												
8.Miscellaneous												
C.Total process losses									7382	7382		
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	7	7	5	5	5	5	1	1	14	14	4	4
b.Point sources									8	8		
2.Municipal, etc.:												
a.Area sources												
b.Point sources												
B.Open burning:												
1.On-site:												
a.Area sources	912	0	1103	0	2191	0	175	0	6207	0	411	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources												
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	919	7	1108	5	2196	5	176	1	6229	22	415	4

Pollutant CO

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries					1300	130	1300	130	7335	7335	8635	7465
4.Mineral products industries												
5.Petroleum refining and petrochemical operations									47	47	47	47
6.Wood processing												
7.Petroleum storage												
8.Miscellaneous												
C.Total process losses					1300	130	1300	130	7382	7382	8682	7512
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	591	591			134	134	725	725	36	36	761	761
b.Point sources					115	115	115	115	8	8	123	123
2.Municipal, etc.:												
a.Area sources					24	24	24	24			24	24
b.Point sources												
B.Open burning:												
1.On-site:												
a.Area sources	1090	0	665	0	375	0	2130	0	10999	0	13129	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources					1272	0	1272	0			1272	0
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	1681	591	665	0	1920	273	4266	864	11043	44	15309	908

Pollutant CO

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:												
1. Gasoline powered	43800	43800	18100	18100	62000	62000	11000	11000	298000	298000	22600	22600
2. Diesel powered	342	342	140	140	458	458	92	92	2200	2200	186	186
B. Off-highway fuel usage	717	717	268	268	111	111			805	805	576	576
C. Aircraft	121	121	262	262	121	121	142	142	483	483	446	446
D. Railroads	2	2	34	34	17	17						
E. Vessels												
F. Gasoline handling evaporation losses												
G. Other (specify)												
H. Total transportation	44982	44982	18804	18804	62767	62767	11234	11234	301488	301488	23808	23808
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
E. Other (specify)												
F. Total miscellaneous												
VI. Grand totals												
A. Area sources	45938	45926	19958	18855	65056	62865	11415	11240	307977	301770	24237	23826
B. Point sources	15	15	0	0	79	79	0	0	12897	12897	0	0
C. Total	45953	45941	19958	18855	65135	62944	11415	11240	320874	314667	24237	23826

Pollutant CO

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:												
1. Gasoline powered	83300	83300	17100	17100	82300	82300	182700	182700	455500	455500	638200	638200
2. Diesel powered	655	655	145	145	655	655	1455	1455	3418	3418	4873	4873
B. Off-highway fuel usage												
C. Aircraft	1128	1128	903	903	6787	6787	8818	8818	2537	2537	11355	11355
D. Railroads	1127	1127	784	784	1817	1817	3728	3728	1575	1575	5303	5303
E. Vessels			11	11	7	7	18	18	53	53	71	71
F. Gasoline handling evaporation losses												
G. Other (specify)												
H. Total transportation	86210	86210	18943	18943	91566	91566	196719	196719	463083	463083	659802	659802
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
E. Other (specify)												
F. Total miscellaneous												
VI. Grand totals												
A. Area sources	88764	87674	19774	19109	92275	91900	200813	198683	474581	463582	675394	662265
B. Point sources	0	0	0	0	2858	416	2858	416	12911	12911	15819	13407
C. Total	88764	87674	19774	19109	95133	92316	203671	199099	487572	476573	691243	675672

Pollutant CO

AQCR Kansas City

NOT REPRODUCIBLE

APPENDIX D *NITROGEN OXIDES* EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
I.Fuel combustion-stationary sources:												
A.Residential fuel:												
1.Anthracite coal:												
a.Area sources												
b.Point sources												
2.Bituminous coal:												
a.Area sources												
b.Point sources												
3.Distillate oil:												
a.Area sources												
b.Point sources												
4.Residual oil:												
a.Area sources												
b.Point sources												
5.Natural Gas:												
a.Area sources	112	112	132	132	267	267	19	19	750	750	47	47
b.Point sources												
6.Wood												
a.Area sources												
b.Point sources												
7.Other (specify):												
a.Area sources												
b.Point sources												
8.Total	112	112	132	132	267	267	19	19	750	750	47	47

a) Existing emissions
b) Emissions achieved

Pollutant NO_x

AQCR Kansas City

APPENDIX D *NITROGEN OXIDES* EMISSIONS INVENTORY SUMMARY, TONS/YR.

KANSAS CITY INTERSTATE AIR QUALITY CONTROL REGION

DATA REPRESENTATIVE OF CALENDAR YEAR 1970

Source Category	STATE OF KANSAS											
	Johnson County		Leavenworth County		Wyandotte County		Kansas Region Total		Missouri Region Total		Region Total	
	a	b	a	b	a	b	a	b	a	b	a	b
I. Fuel combustion-stationary sources:												
A. Residential fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	8	8	9	9	2	2	19	19			19	19
b. Point sources												
3. Distillate oil:												
a. Area sources	21	21	5	5	2	2	28	28			28	28
b. Point sources												
4. Residual oil:												
a. Area sources												
b. Point sources												
5. Natural Gas:												
a. Area sources	471	471	60	60	359	359	890	890	1327	1327	2217	2217
b. Point sources												
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	500	500	74	74	363	363	937	937	1327	1327	2264	2264

a) Existing emissions
b) Emissions achieved

Pollutant NO_x

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources												
b. Point sources									14	14		
3. Distillate oil:												
a. Area sources	8	8	8	8	20	20	1	1	58	58	1	1
b. Point sources									3	3		
4. Residual oil:												
a. Area sources	3	3	3	3	7	7			22	22		
b. Point sources					53	53	77	77	35	35		
5. Natural Gas:												
a. Area sources	41	41	47	47	99	99	6	6	291	291	16	16
b. Point sources					23	23			13474	13474		
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	52	52	58	58	202	202	84	84	13897	13897	17	17
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources												
b. Point sources												
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources	9	9	7	7	17	17			50	50	3	3
b. Point sources												

Pollutant NO_x

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
B. Commercial and institutional fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	65	65	3	3			68	68			68	68
b. Point sources									14	14	14	14
3. Distillate oil:												
a. Area sources	10	10	2	2	208	208	220	220	96	96	316	316
b. Point sources			30	30	87	87	117	117	3	3	120	120
4. Residual oil:												
a. Area sources	12	12	3	3	99	99	114	114	35	35	149	149
b. Point sources	70	70	93	93	1074	1074	1237	1237	165	165	1402	1402
5. Natural Gas:												
a. Area sources	54	54	86	86	6	6	146	146	500	500	646	646
b. Point sources	13	13			418	418	431	431	13497	13497	13928	13928
6. Wood												
a. Area sources												
b. Point sources												
7. Other (specify):												
a. Area sources												
b. Point sources												
8. Total	224	224	217	217	1892	1892	2333	2333	14310	14310	16643	16643
C. Industrial fuel:												
1. Anthracite coal:												
a. Area sources												
b. Point sources												
2. Bituminous coal:												
a. Area sources	9	9	13	13	429	429	451	451			451	451
b. Point sources												
3. Coke:												
a. Area sources												
b. Point sources												
4. Distillate oil:												
a. Area sources	14	14	3	3	32	32	41	49	86	86	135	135
b. Point sources												

Pollutant NO_x

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources	9	9	8	8	20	20	1	1	54	54	1	1
b.Point sources												
6.Natural gas:												
a.Area sources	297	297	357	357	607	607	43	43	1613	1613	157	157
b.Point sources												
7.Process gas:												
a.Area sources												
b.Point sources												
* 8.Other (specify):												
a.Area sources												
b.Point sources	43	43			7958	7958			99630	99630		
9.Total	358	358	372	372	8602	8602	44	44	101347	101347	161	161
D.Steam-electric power plant fuel (point sources only):												
1.Anthracite coal												
2.Bituminous coal					16206	16206			45526	45526		
3.Coke												
4.Distillate oil												
5.Residual oil												
6.Natural gas												
7.Process gas									196	196		
* 8.Other (specify)	1363	1363							9696	9696		
9.Total	1363	1363			16206	16206			55418	55418		
E.Total stationary fuel combustion	1885	1885	562	562	25277	25277	147	147	171412	171412	225	225
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries									6	6		
2.Food and agricultural industries									7	7		

* Multi-fuel boilers; coal, oil, and nat. gas.

Pollutant NO_x

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
5.Residual oil:												
a.Area sources									93	93	93	93
b.Point sources												
6.Natural gas:												
a.Area sources	147	147	17	17	127	127	291	291	3074	3074	3365	3365
b.Point sources												
7.Process gas:												
a.Area sources												
b.Point sources												
8.Other (specify):												
a.Area sources												
b.Point sources												
9.Total	170	170	33	33	588	588	791	791	107631	107631	107631	107631
D.Steam-electric power plant fuel (point sources only):									110884	110884	111675	111675
1.Anthracite coal												
2.Bituminous coal					7326	6900	7326	6900	61732	61732	69058	68632
3.Coke												
4.Distillate oil												
5.Residual oil												
6.Natural gas					1334	1267	1334	1267			1334	1267
7.Process gas									196	196	196	196
8.Other (specify)									11059	11059	11059	11059
9.Total					8660	8167	8660	8167	72987	72987	81647	81154
E.Total stationary fuel combustion	894	894	324	324	11503	11010	12721	12228	199508	199508	212229	211736
II.Process losses:												
A.Area sources												
B.Point sources												
1.Chemical process industries									6	6	6	6
2.Food and agricultural industries									7	7	7	7

Pollutant NO_x

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries									1302	1302		
4.Mineral products industries									2	2		
5.Petroleum refining and petrochemical operations			10	10					32	32		
6.Wood processing									8	8		
7.Petroleum storage												
8.Miscellaneous									8	8		
C.Total process losses			10	10					1365	1365		
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	1	1	1	1	2	2			3	3	1	1
b.Point sources									151	151		
2.Municipal, etc.:												
a.Area sources												
b.Point sources												
B.Open burning:												
1.On-site:												
a.Area sources	64	0	78	0	153	0	9	0	425	0	27	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources												
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	65	1	79	1	155	2	9	0	579	154	28	1

Pollutant NOx

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
3.Metallurgical industries									1302	1302	1302	1302
4.Mineral products industries					317	317	317	317	2	2	319	319
5.Petroleum refining and petrochemical operations					931	931	931	931	42	42	973	973
6.Wood processing									8	8	8	8
7.Petroleum storage												
8.Miscellaneous									8	8	8	8
C.Total process losses					1248	1248	1248	1248	1375	1375	2623	2623
III.Solid waste disposal												
A.Incineration:												
1.On-site:												
a.Area sources	177	177			40	40	217	217	8	8	225	225
b.Point sources					11	11	11	11	151	151	162	162
2.Municipal, etc.:												
a.Area sources												
b.Point sources					17	17	17	17			17	17
B.Open burning:												
1.On-site:												
a.Area sources	77	0	47	0	26	0	150	0	756	0	706	0
b.Point sources												
2.Dumps												
a.Area sources												
b.Point sources					89	0	89	0			89	0
C.Other (specify):												
1.Area sources												
2.Point sources												
D.Total solid waste disposal	254	177	47	0	183	68	484	245	915	159	1399	404

Pollutant NO_x

AQCR Kansas City

Source Category	STATE OF MISSOURI											
	Buchanan County		Platte County		Clay County		Ray County		Jackson County		Cass County	
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:												
1. Gasoline powered	5550	5550	2280	2280	7260	7260	1460	1460	34800	34800	3070	3070
2. Diesel powered	360	360	146	146	180	180	90	90	2250	2250	190	190
B. Off-highway fuel usage									8	8	4	4
C. Aircraft	128	128	28	28	178	198						
D. Railroads	129	129	277	277	130	130	151	151	462	462	481	481
E. Vessels	2	2	41	41	20	20			9	9		
F. Gasoline handling evaporation losses												
G. Other (specify)												
H. Total transportation	6169	6169	2772	2772	8088	8088	1701	1701	37529	37529	3745	3745
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
E. Other (specify)												
F. Total miscellaneous												
VI. Grand totals												
A. Area sources	6713	6649	3413	3335	9280	9127	1857	1848	40795	40370	3998	3971
B. Point sources	1406	1406	10	10	24240	24240	0	0	170090	170090	0	0
C. Total	8119	8055	3423	3345	33520	33367	1857	1848	210885	210460	3998	3971

Pollutant NO_x

AQCR Kansas City

Source Category	STATE OF KANSAS						Kansas Region Total		Missouri Region Total		Region Total	
	Johnson County		Leavenworth County		Wyandotte County							
	a	b	a	b	a	b	a	b	a	b	a	b
IV. Transportation (area sources only):												
A. Motor vehicles:												
1. Gasoline powered	11000	11000	2510	2510	10800	10800	24310	24310	54420	54420	78730	78730
2. Diesel powered	685	685	145	145	685	685	1515	1515	3516	3516	5031	5031
B. Off-highway fuel usage	19	19	11	11	169	169	199	199	366	366	565	565
C. Aircraft	1207	1207	840	840	1937	1937	3984	3984	1630	1630	5614	5614
D. Railroads			13	13	8	8	21	21	72	72	93	93
E. Vessels												
F. Gasoline handling evaporation losses												
G. Other (specify)												
H. Total transportation	12911	12911	3519	3519	13609	13609	30039	30039	60004	60004	90043	90043
V. Miscellaneous (area sources only):												
A. Forest fires												
B. Structural fires												
C. Coal refuse burning												
D. Agricultural burning												
E. Other (specify)												
F. Total miscellaneous												
VI. Grand totals												
A. Area sources	13976	13899	3767	3720	14939	14913	32682	32528	66056	65300	98738	97832
B. Point sources	83	83	123	123	11604	11022	11810	11228	195746	195746	207556	206974
C. Total	14059	13982	3890	3843	26543	25935	44492	43756	261802	261046	306294	304806

Pollutant NO_x

AQCR Kansas City

APPENDIX 1

NUMBER OF MILES AND ANNUAL AVERAGE DAILY VEHICLE MILES OF TRAVEL ON STATE HIGHWAYS (INCLUDING CITY CONNECTING LINKS), LOCAL FEDERAL-AID SECONDARY HIGHWAYS, LOCAL CITY STREETS, AND LOCAL RURAL ROADS IN KANSAS BY COUNTY FOR THE YEAR ENDING DECEMBER 31, 1969

COUNTY	* State Highways (Incl. City Conn. Links)		Local Federal-Aid Secondary Highways (Rural & Urban)		Local City Streets		Local Rural Roads		Grand Total	
	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel
Allen	69.274	162,614	221.0	29,660	86.720	33,040	677.5	31,660	1,054.494	256,974
Anderson	91.187	118,124	153.7	27,984	56.300	6,880	823.6	41,473	1,124.787	194,461
Atchison	105.160	122,351	153.9	33,120	72.100	34,949	568.7	15,625	899.860	206,045
Barber	99.353	72,375	224.1	31,852	43.140	8,443	679.2	25,249	1,045.793	137,919
Barton	124.095	255,574	291.1	79,973	139.188	72,278	1,311.4	55,916	1,865.783	463,741
Bourbon	138.570	155,283	194.7	24,858	90.240	35,858	780.2	36,800	1,203.710	252,799
Brown	104.476	186,165	240.8	41,500	89.430	17,450	790.7	33,935	1,225.406	279,050
Butler	199.890	566,544	377.2	158,084	168.399	59,679	1,708.6	71,216	2,454.089	855,523
Chase	92.280	170,441	150.9	14,747	16.200	1,512	389.2	12,536	648.580	199,236
Chautauqua	57.466	69,214	170.3	15,771	38.160	5,838	491.6	21,013	757.526	111,836
Cherokee	145.539	335,102	230.7	41,033	99.040	13,517	777.9	47,185	1,253.179	436,837
Cheyenne	86.428	70,563	120.2	9,744	14.580	3,667	1,050.9	20,004	1,272.108	103,978
Clark	113.078	65,060	147.4	11,280	20.430	4,599	483.0	9,760	763.908	90,699
Clay	73.601	79,371	207.1	37,312	64.135	15,048	898.3	18,590	1,243.136	150,321
Cloud	109.593	133,353	258.7	37,443	64.711	19,298	947.6	20,209	1,380.604	210,303
Coffey	85.615	149,460	180.4	30,766	37.380	6,014	909.6	23,103	1,212.995	209,343
Comanche	56.874	30,175	149.1	11,855	20.660	4,230	471.2	17,168	697.834	63,428
Cowley	156.527	276,969	283.8	90,631	161.510	79,354	1,210.0	59,574	1,811.837	506,528
Crawford	127.108	282,662	214.0	74,864	208.361	78,142	854.6	60,652	1,402.069	496,320
Decatur	94.222	69,733	191.9	13,530	22.410	4,764	982.1	14,410	1,290.632	102,437
Dickinson	146.795	252,793	310.3	73,612	139.851	32,666	1,208.3	28,185	1,805.246	387,256
Doniphan	79.238	145,507	182.3	25,159	56.220	8,146	428.5	15,973	746.258	194,785
Douglas	96.027	493,005	181.6	82,258	141.134	155,368	631.7	23,780	1,050.461	754,411
Edwards	59.919	61,514	165.9	18,619	32.060	5,147	809.6	18,593	1,067.479	103,873
Elk	55.932	46,957	163.5	15,808	42.530	4,857	568.1	20,895	830.062	88,517
Ellis	68.283	189,950	257.9	60,559	83.970	79,645	1,054.4	40,465	1,464.553	370,619
Ellsworth	124.719	162,355	185.1	21,413	27.620	4,577	820.9	23,454	1,158.339	211,799
Finney	121.765	197,141	231.1	18,629	77.799	57,927	900.4	22,411	1,331.064	296,108
Ford	154.232	260,989	236.7	58,773	100.641	58,518	1,263.8	33,717	1,755.373	411,997
Franklin	95.114	272,855	221.8	41,797	118.730	32,960	787.6	44,338	1,223.244	391,950
Geary	119.577	347,076	95.7	15,096	73.955	56,155	305.7	11,459	594.932	429,786
Gove	74.585	135,407	188.3	12,380	25.060	3,093	910.1	17,474	1,198.045	168,354
Graham	68.588	61,676	198.9	13,284	20.230	4,223	941.1	14,271	1,228.818	93,454
Grant	54.960	65,599	121.8	11,770	17.410	6,450	621.7	11,735	815.870	95,554
Gray	92.994	97,669	176.7	19,069	23.980	5,082	977.4	14,215	1,271.074	136,035

* Includes Kansas Turnpike

Prepared by: State Highway Commission of Kansas
Planning & Development Department
October 19, 1970

NOT REPRODUCIBLE

APPENDIX 1 (Continued)

COUNTY	* State Highways (Incl. City Conn. Links)		Local Federal-Aid Secondary Highways (Rural & Urban)		Local City Streets		Local Rural Roads		Grand Total	
	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel
Greeley	56.883	36,411	115.9	6,682	11.920	2,599	772.9	13,171	957.603	58,863
Greenwood	116.775	171,927	272.2	41,937	73.000	9,189	1,056.2	37,476	1,518.175	260,529
Hamilton	64.775	61,885	128.5	5,818	17.900	3,558	699.4	13,598	910.575	84,859
Harper	99.740	99,945	187.3	22,766	41.420	8,246	1,077.6	47,460	1,406.060	178,417
Harvey	80.498	298,609	215.7	84,714	126.827	56,606	797.3	33,074	1,320.325	473,003
Haskell	83.423	70,079	112.4	15,076	21.090	4,856	641.9	12,864	858.813	102,875
Hodgeman	63.188	38,688	142.6	9,921	11.590	2,470	844.0	12,138	1,061.378	63,217
Jackson	91.806	149,501	209.9	30,496	52.810	9,118	901.9	24,656	1,256.416	213,771
Jefferson	123.669	174,121	195.1	39,538	49.580	7,294	709.4	21,592	1,077.749	242,545
Jewell	116.681	72,062	281.9	24,073	57.090	5,849	1,239.4	20,832	1,695.071	122,816
Johnson	149.376	1,355,472	232.4	418,521	744.495	918,975	580.8	41,783	1,707.071	2,734,751
Kearny	64.397	62,367	152.4	9,643	17.080	3,246	527.5	15,032	761.377	90,288
Kingman	110.565	169,752	215.3	44,091	41.940	6,953	1,082.2	34,337	1,450.005	255,133
Kiowa	60.949	102,791	108.2	13,509	30.710	4,937	695.6	18,284	895.459	139,521
Labette	113.080	247,438	203.6	48,088	138.740	47,569	891.0	47,191	1,346.420	390,286
Lane	78.508	43,026	115.4	7,336	14.980	3,017	544.7	9,763	753.588	63,142
Leavenworth	121.142	422,930	171.4	57,529	134.346	108,162	533.1	17,605	959.988	606,226
Lincoln	85.058	72,693	212.6	15,242	27.140	3,239	835.1	12,884	1,159.898	104,058
Linn	104.778	108,671	197.3	23,558	49.180	5,541	741.7	24,494	1,092.958	162,264
Logan	109.360	54,871	174.4	7,696	19.070	4,424	605.3	6,766	908.130	73,757
Lyon	148.887	355,702	278.3	47,922	109.260	70,508	1,089.1	25,963	1,625.547	500,095
Marion	122.172	174,173	323.9	67,329	102.660	15,266	1,316.6	34,635	1,865.332	291,403
Marshall	140.333	160,211	291.2	39,565	90.960	16,437	1,190.0	28,182	1,712.493	244,395
McPherson	109.019	276,647	305.7	89,033	119.078	48,010	1,284.8	51,454	1,818.597	465,144
Meade	99.203	92,511	135.6	14,756	34.380	7,472	806.3	15,445	1,075.483	130,184
Miami	89.837	215,925	253.3	57,102	59.630	8,591	793.0	29,223	1,195.767	310,941
Mitchell	87.853	82,555	203.2	26,785	63.140	12,078	950.7	18,499	1,304.893	139,917
Montgomery	130.056	270,295	196.4	102,256	221.520	141,081	898.8	66,655	1,446.776	580,287
Morris	106.890	82,098	161.3	21,358	40.920	7,076	800.5	18,601	1,109.610	129,133
Morton	81.534	36,049	117.5	16,169	24.340	4,680	491.8	6,892	715.174	63,790
Nemaha	104.071	88,312	282.0	42,871	53.800	9,945	989.4	28,209	1,429.271	169,337
Neosho	109.090	209,305	199.1	35,192	99.970	46,103	773.1	29,631	1,181.260	320,231
Ness	106.548	73,211	195.3	13,451	27.020	4,893	1,069.4	18,523	1,398.268	110,078
Norton	121.768	94,931	198.4	13,667	31.290	7,622	1,052.1	13,380	1,403.558	129,600
Osage	129.761	219,644	175.8	33,491	28.800	13,551	981.4	29,389	1,365.761	296,075

* Includes Kansas Turnpike

Prepared by: State Highway Commission of Kansas
Planning & Development Department
October 19, 1970

APPENDIX 1 (Continued)

COUNTY	* State Highways (Incl. City Conn. Links)		Local Federal-Aid Secondary Highways (Rural & Urban)		Local City Streets		Local Rural Roads		Grand Total	
	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel	Miles	Daily Vehicle Miles of Travel
Osborne	85.900	65,925	181.3	15,520	35.780	5,935	965.1	16,504	1,269.080	103,884
Ottawa	76.561	99,797	191.0	28,972	29.820	4,071	914.9	28,988	1,212.281	161,828
Pawnee	99.376	102,146	229.4	26,292	48.220	17,689	1,059.9	28,592	1,436.896	174,719
Phillips	110.469	102,444	219.8	21,834	41.560	8,143	1,153.9	13,607	1,525.729	146,028
Pottawatomie	137.996	132,248	244.1	37,965	41.300	6,113	894.8	20,085	1,318.196	196,411
Pratt	87.238	183,599	195.2	21,440	62.000	20,197	1,021.8	31,818	1,366.238	257,054
Rawlins	73.549	52,638	231.6	15,498	17.660	3,501	992.2	15,377	1,320.009	87,014
Reno	179.384	359,914	417.9	162,042	246.652	242,536	1,767.6	82,280	2,611.536	846,772
Republic	96,591	109,828	253.6	39,671	62.480	9,225	1,039.5	29,286	1,452.171	188,010
Rice	82.515	124,238	240.9	54,688	79.080	13.668	1,024.4	52,417	1,426.895	245,011
Riley	112.406	323,274	145.8	63,456	104.558	126,558	495.0	17,924	857.764	531,212
Rooks	101.309	95,885	204.8	17,185	43.010	9,092	1,103.3	24,928	1,452.419	147,090
Rush	90.867	88,662	179.5	20,012	47.120	4,792	1,062.6	23,479	1,380.087	136,945
Russell	102.684	173,417	209.7	39,293	63.780	18,066	1,040.8	47,071	1,416.964	277,847
Saline	105.193	360,095	230.9	100,933	212.873	173,664	881.5	38,936	1.430.466	673.628
Scott	73.373	79,523	145.0	11,364	18.860	6,990	654.7	10,149	891.933	108,026
Sedgwick	203.954	1,374,257	431.5	739,865	1305.469	2171,329	1,423.6	182,587	3,364.523	4468,038
Seward	84.693	144,027	123.6	28,737	67.348	39,065	573.4	15,619	849.041	227,448
Shawnee	126.107	914,022	237.3	324,194	625,866	745,630	713.2	64,104	1,702.473	2047,950
Sheridan	93.023	50,731	199.2	11,414	17.000	1.574	1,014.8	16,693	1.324.023	80.412
Sherman	67.547	152,906	194.9	12,606	38.134	21,171	967.9	14,867	1,268.481	201,550
Smith	115.184	93,981	238.3	16,838	28,650	6,289	1,193.3	24,007	1,575.434	141,115
Stafford	70.194	80,588	226.0	47,483	36.820	6,749	1,125.7	35,945	1,458.714	170,765
Stanton	53.863	31,652	128.5	14,969	11.200	2,458	648.5	12,412	842.063	61,491
Stevens	73.617	54,832	147.9	33,116	15.170	5,191	719.7	14,755	956.387	107,894
Sumner	209.852	375,785	367.7	70,134	118.460	47,342	1,676.6	62,548	2,372.612	555,809
Thomas	127.897	207,812	210.6	16,986	34.660	8,054	1,262.4	14,554	1,635.557	247,406
Trego	85.213	143,227	188.2	13,441	15.630	4,066	939.4	17,534	1,228.443	178,268
Wabaunsee	116.751	223,811	202.5	28,030	28.890	3,344	704.8	17,693	1,052.941	272,878
Wallace	62,772	33,743	130.2	6,581	11.820	1,078	480.0	7,523	684.792	48,925
Washington	125.136	95,826	314.3	40,836	46.700	5,067	1,233.3	24,459	1,719.436	166,188
Wichita	58.866	42,080	134.5	9,343	17.260	3,478	667.6	10,592	878.226	65,493
Wilson	100.617	147,295	180.7	33,046	67.360	9,181	709.5	27,350	1,058.177	216,872
Woodson	59.677	90,996	149.5	14,930	34.750	5,803	605.4	17,118	849.327	128,847
Wyandotte	107.623	1,423,653	51.1	135,112	702.100	1058,255	173.1	52,582	1.033.923	2669,602
	10,778.734	21,541,291	21,415.1	5,125,240	9,710.000	7,463,899	92,203.4	2,971,107	134,017.234	36,101,537

* Includes Kansas Turnpike

Prepared by: State Highway Commission of Kansas
Planning & Development Department
October 19, 1970

APPENDIX 2

KANSAS MOTOR VEHICLE DEPARTMENT
TOTAL REGISTRATION FOR 1968 BY COUNTY

OCT 13 1971

COUNTY	AUTO	TRUCK	TRAILER	MOTOR CYCLE	AUTO DEALER	MTR. CYCLE DEALER	TRAILER DEALER	CAMPER	MOBILE HOME	TOTAL
Allen	7,242	3,183	301	263	19	3		108	173	11,292
Anderson	4,034	2,344	131	103	12		1	38	77	6,740
Atchison	8,316	2,940	231	211	20		4	67	107	11,896
Barber	3,538	2,454	245	97	8			17	96	6,455
Barton	15,961	6,819	1,051	491	25	5	9	150	291	24,802
Bourbon	7,674	3,049	165	227	20	2	2	82	114	11,335
Brown	5,850	2,730	206	161	15	2	1	70	74	9,109
Butler	19,580	7,651	920	573	38	2	6	323	660	29,753
Chase	1,725	1,222	69	64	3	2		37	47	3,169
Chautauqua	2,393	1,785	117	81	7			30	65	4,478
Cherokee	10,426	4,510	250	357	26		1	107	160	15,837
Cheyenne	2,115	1,839	112	89	7			50	27	4,239
Clark	1,495	1,147	87	24	2			42	39	2,836
Clay	4,852	2,516	231	196	12	1		49	57	7,914
Cloud	6,248	3,169	255	215	16	5	2	46	96	10,052
Coffey	3,595	2,274	148	100	11		1	30	64	6,223
Comanche	1,429	1,088	64	29	6			13	22	2,651
Cowley	16,853	6,529	578	449	37	2	5	189	278	24,920
Crawford	17,655	5,283	403	551	37		5	107	272	24,313
Decatur	2,552	1,915	130	101	5	1	2	37	76	4,819
Dickinson	9,764	4,649	415	283	23	3	3	112	175	15,427
Doniphan	4,064	2,416	171	110	9		2	48	177	6,997
Douglas	22,419	5,678	589	1,155	38	5	5	182	680	30,751
Edwards	2,471	1,717	128	78	11	3		35	53	4,496
Elk	2,075	1,475	64	29	5			25	54	3,727
Ellis	9,846	3,697	356	290	22	5	6	27	331	14,580
Ellsworth	3,235	2,130	121	139	10	3		48	83	5,769
Finney	8,696	4,603	466	256	15	2	3	80	197	14,318
Ford	10,827	5,280	593	393	29	7	7	119	345	17,600
Franklin	9,546	3,945	294	262	25	2	4	96	243	14,417
Geary	14,662	2,527	403	496	35	4	5	81	502	18,715
Gove	1,707	1,713	81	85	8	1		16	56	3,667
Graham	2,333	1,755	152	102	7		1	15	65	4,430
Grant	2,617	1,922	279	105	6	2	2	34	245	5,212
Gray	2,002	2,036	80	130	7	1		35	92	4,383
Greeley	924	1,069	54	50	3		1	8	46	2 155
Greenwood	4,687	2,808	286	147	10		5	51	134	8,128
Hamilton	1,411	1,362	72	128	4	1		17	47	3,042
Harper	4,279	2,974	174	180	17	1		40	58	7,723
Harvey	13,005	4,570	449	458	32	2	4	145	246	18,911
Haskell	1,636	1,607	110	92	3			24	64	3,536
Hodgeman	1,350	1,605	70	45	5	1		22	56	3,154
Jackson	4,739	2,643	185	174	11		1	78	124	7,955
Jefferson	5,174	2,988	214	187	11	1	1	121	216	8,913
Jewell	3,093	2,288	198	180	7	1	1	43	83	5,894
Johnson	110,151	10,710	2,147	2,064	70	8	10	317	280	125,757
Kearny	1,385	1,358	63	49	5	1		21	58	2,940
Kingman	4,451	2,986	194	154	15	2	1	49	74	7,926
Kiowa	2,184	1,495	115	82	8	1	2	33	75	3,995
Labette	12,380	4,968	333	496	30	5	7	160	286	18,665
Lane	1,457	1,394	101	83	4	1		17	58	3,115
Leavenworth	19,539	5,046	478	489	31	5	3	167	247	26,005
Lincoln	2,464	1,934	120	99	6	2		30	39	4,694
Linn	3,708	2,268	126	88	12	1	1	47	87	6,338
Logan	1,928	1,451	92	121	6	3	1	25	56	3,683
Lyon	13,457	4,818	434	535	19	3	4	254	484	19,958
Marion	6,613	3,844	227	211	13		1	58	183	11,150
Marshall	6,698	3,211	226	200	17	1	2	54	87	10,496
McPherson	12,071	5,773	792	493	24	3	3	119	231	19,509
Meade	2,437	2,032	149	64	8		1	38	67	4,796
Miami	8,807	3,777	319	227	17	2	1	136	172	13,458
Mitchell	4,113	2,775	204	243	11	1		27	101	7,475
Montgomery	20,133	6,626	530	662	54	8	5	218	235	28,471
Morris	3,256	1,969	115	67	5			34	53	5,499
Morton	1,741	1,514	96	72	5			22	110	3,560
Nemaha	5,352	2,488	134	190	17	1		32	51	8,265
Neosho	9,257	4,081	441	295	23	2	7	101	206	14,413
Ness	2,562	2,272	114	118	11	2		28	78	5,185
Norton	3,672	2,402	192	127	12	1	3	37	127	6,573
Osage	6,015	3,072	189	213	22		2	89	237	9,839
Osborne	3,384	2,275	154	125	14	1		28	91	6,072
Ottawa	3,054	2,188	125	114	8	1		42	54	5,586
Pawnee	4,443	2,649	161	146	9			21	74	7,503
Phillips	4,117	2,359	179	121	12			15	57	3,860
Pottawatomie	5,363	2,757	158	231	19	2	1	51	233	8,815
Pratt	5,529	3,038	385	160	20	1	1	90	95	9,309
Rawlins	2,150	1,977	86	96	6		1	22	56	4,394
Reno	29,989	11,062	1,230	1,393	56	11	13	393	556	44,603
Republic	4,402	2,902	203	163	13		4	22	85	7,794
Rice	6,398	3,426	361	211	10		1	86	115	10,608
Riley	16,018	3,591	513	994	29	7	8	62	646	21,868
Rooks	3,769	2,342	185	171	7	2		30	71	6,577
Rush	2,838	2,089	96	99	10	1		29	50	5,212
Russell	5,211	3,120	321	166	9		1	52	87	8,967
Saline	22,343	6,671	957	773	47	10	10	181	273	31,265
Scott	2,678	2,193	235	147	7		3	33	111	5,407
Sedgwick	179,371	35,593	6,749	5,194	268	23	49	1,504	3,850	232,801
Seward	7,832	2,808	402	221	16	1	7	60	295	11,642
Shawnee	73,887	14,242	2,044	2,546	124	16	22	771	1,503	95,155
Sheridan	1,768	1,665	66	110	7			22	57	3,695
Sherman	3,918	2,566	302	127	9	1	5	33	227	7,225
Smith	3,427	2,225	119	112	10	1		16	78	5,988
Stafford	3,319	2,398	149	102	7	1		50	51	6,077
Stanton	1,077	1,217	69	89	3			13	73	2,541
Stevens	2,118	1,880	159	94	5		2	43	56	4,357
Sumner	12,001	6,448	442	339	29	1	5	138	239	19,642
Thomas	3,617	2,620	282	152	14	2	2	72	140	6,901
Trego	2,350	1,697	112	68	9	1	1	16	59	4,313
Wabaunsee	3,034	1,868	81	86	7			26	77	5,179
Wallace	1,028	1,051	71	47	5		1	20	101	2,324
Washington	4,598	2,720	128	121	12			16	60	7,655
Wichita	1,372	1,528	107	62	6		1	12	78	3,166
Wilson	5,802	2,906	151	201	18	4	1	55	113	9,251
Woodson	2,376	1,489	90	63	10	1	1	27	94	4,151
Wyandotte	87,531	15,664	2,235	2,064	116	8	19	422	454	108,593
	1,077,938	375,592	38,936	34,336	2,095	219	303	9,607	21,108	1,559,934

KANSAS BASE PLATES ISSUED UNDER PROPATION IN 1968 ..... Tractors..... 6,194
Trailers..... 6,775

KANSAS DISABLED VETERAN PLATES ISSUED IN 1968..... 361

APPENDIX 3

JACK STAPLETON, SR., *Chairman*
Stanberry 64489

ROY E. MAYES, SR., *Vice Chairman*
P. O. Box 718
Carthage 64836

A. C. RILEY, *Member*
701 Davis
New Madrid 63869

ROGER R. LINSIN, *Member*
5841 Hamilton
St. Louis 63136

W. R. LOGAN, *Member*
Silex 63377

JOSEPH H. BRUENING, *Member*
305 Dwight Building
Kansas City 64105

MISSOURI
STATE HIGHWAY COMMISSION

Jefferson City, Missouri 65101
Telephone (314) 636-3121

THOMAS A. DAVID, *Director of Highways*

ROBERT N. HUNTER, *Chief Engineer*

ROBERT L. HYDER, *Chief Counsel*

L. V. MCLAUGHLIN, *Ass't. Chief Engineer*

IRENE WOLLENBERG, *Secretary*

October 7, 1971

PLANNING
Traffic
Data Analysis
Vehicle Miles of Travel Kansas City Area
State of Missouri

Mr. Don Henz
Pedco Environment Suite 8
Atkinson Square
Cincinnati, Ohio 45246

Data based on 1970 counts
per A. Steiner OCT 13 1971

Dear Mr. Henz:

This will acknowledge your telephone request of October 6, 1971, for vehicle miles of travel for six counties in the Kansas City area. The latest available information follows:

County	Interstate Veh. Mi.	Interstate Miles	Primary Veh. Mi.	Primary Miles	Supplementary Veh. Mi.	Supplementary Miles	Total Veh. Mi.	Total Miles
Platte	199,438	28.20	192,105	24.17	168,547	191.95	560,090	244.32
Jackson	1,354,149	52.83	657,188	71.57	915,107	150.00	2,926,444	271.40
Clay	478,049	29.04	340,880	72.35	482,205	156.12	1,301,134	257.51
Cass	None	-	359,322	74.06	178,297	255.73	537,629	329.79
Ray	None	-	135,630	51.62	63,576	209.02	199,206	260.64
Buchanan	148,194	22.51	185,723	53.12	208,869	205.69	542,786	281.32

	Kansas City Urban Area Daily Veh. Mi.	Kansas City Urban Area Miles	St. Joseph Urban Area Daily Veh. Mi.	St. Joseph Urban Area Miles
Interstate	- 1,364,000	42	62,000	11
Other Freeways & Expressways	- 693,000	40	68,000	5
Other Principal Arterials	- 1,856,000	117	385,000	38
Minor Arterial Street System	- 1,557,000	259	108,000	25
Collector Street System	- 473,000	175	52,000	23
Local Street System	- 2,532,000	2112	232,000	412

County		County Roads Daily Veh. Mi.	Miles
Platte	-	203,428	770.6
Jackson	-	172,510	504.4
Clay	-	126,110	339.8
Cass	-	243,752	923.3
Ray	-	177,540	672.5
Buchanan	-	126,800	480.3

We have indicated the Daily Vehicle Miles of Travel for each of the six counties for the State Highway System and a separate listing for the County roads. The attached listing shows the mileage of County roads by Surface Types as of December 31, 1970.

The daily vehicle miles for the Kansas City urban area includes all of Jackson County and a portion of Clay County.

We hope the information will be useful and if we may be of further assistance, please feel free to call upon us.

Very truly yours,

August Steiner
Division Engineer
Planning

K.C. urban V-M includes parts of Platte, Jackson, + Clay Cos. For total V-M in Platte, Jackson + Clay add [State Hwy] + [Urban (except interstate + freeway)] + [County Rds.]. Urban KC + St. Joe Interstate + other freeways are already incl - in the county totals.

APPENDIX 4

VEHICLE-MILE DATA FOR URBAN KANSAS CITY, MO.
SOURCE - MUNICIPAL AGENCY

(AS ON MAPS)

Grid	Vehicle Miles Per Day (1969 Cal year) 25 M.P.H.	35 M.P.H.	55 M.P.H.
54.0	1047.3	2888.5	6733.4
55.0	1444.2	2519.0	0.0
60.0	4381.1	27350.3	30094.4
61.0	1738.1	2519.0	7960.2
62.0	5143.3	1125.1	16422.7
63.0	2801.2	0.0	8203.7
79.0	2821.5	0.0	6233.8
80.0	2116.0	2149.6	23452.5
81.0	5535.2	2183.1	17169.9
82.0	2448.5	0.0	5904.6
90.0	7827.5	14315.0	30094.4
91.0	44886.3	55540.4	11335.8
92.0	22115.3	11120.8	0.0
93.0	3116.3	0.0	9510.3
112.0	345.3	0.0	0.0
113.0	10830.2	27323.4	245457.9
114.0	75840.7	68308.7	122728.9
115.0	10130.0	4536.0	0.0
126.0	309.0	0.0	1164.8
127.0	220.3	573.5	1289.7
128.0	331.6	7049.6	0.0
129.0	2721.6	0.0	0.0
131.0	0820.5	4878.5	6448.8
132.0	3335.5	18137.2	13283.8
133.0	5376.9	4244.7	0.0
134.0	3226.4	11464.1	0.0
135.0	25146.1	63950.7	0.0
136.0	125865.1	91237.2	91788.1
137.0	26622.1	18440.9	90655.5
138.0	46633.0	28804.6	0.0
139.0	3712.5	14477.5	0.0
140.0	6746.0	7637.8	0.0
141.0	78223.6	61582.1	0.0
142.0	60180.7	34934.4	31365.7
143.0	27844.8	16118.0	18602.1
144.0	50341.5	13424.2	0.0
145.0	10822.7	12459.6	0.0
146.0	66117.1	63978.2	0.0
147.0	20280.4	21857.1	0.0
148.0	23010.5	15954.7	17533.7
149.0	13485.4	14423.1	16620.1
150.0	21812.4	12953.0	0.0
173.0	266713.4	439913.1	0.0
174.0	503653.2	108450.6	0.0
175.0	100469.8	100243.7	0.0
179.0	77810.3	175024.8	78007.1
180.0	13111.0	11654.8	0.0
197.0	172730.0	153003.1	0.0
198.0	102663.0	216035.2	0.0
199.0	132369.8	92063.5	33567.4
200.0	22500.3	58039.3	0.0
207.0	81664.9	84687.6	14664.3

TOTAL DOWNTOWN K.C.

NOT REPRODUCIBLE

Vehicle Miles Per Day
(Page 2)

Grid	25 M.P.H.	35 M.P.H.	55 M.P.H.
208.0	45544.7	73707.9	48587.7
209.0	38162.1	35952.1	0.0
210.0	10262.6	12639.0	33330.6
225.0	35874.8	40103.5	0.0
226.0	46673.2	36294.7	23271.1
227.0	20530.4	7558.8	5906.3
235.0	12506.3	5224.5	0.0
236.0	9565.7	16165.6	10807.6
237.0	4542.7	0.0	0.0
EXCL. DOWNTOWN K.C. →	1,969,939.41	1,991,553.7	791,944.6

MISSOURI SIDE ONLY

~~MILLION~~ THOUSAND V-M

	25 MPH	35 MPH	55 MPH
Downtown Area			
Daily	610.8	525.6	288.8
Annual	~~2,220,000~~ 222,000	192,000	105,000
Balance of City			
Daily	1,970	1,902	791.4
Annual	720,000	695,000	288,000
Total City			
Daily			
Annual	942,000	887,000	393,000

MO. PORTION	1000 V-M per year	
	25 MPH	45 MPH
~~TOTAL CITY~~ CORE ONLY	414,000	105,000
~~CORE ONLY~~ TOTAL CITY	1,829,000	393,000

NOT REPRODUCIBLE